AIR FORCE

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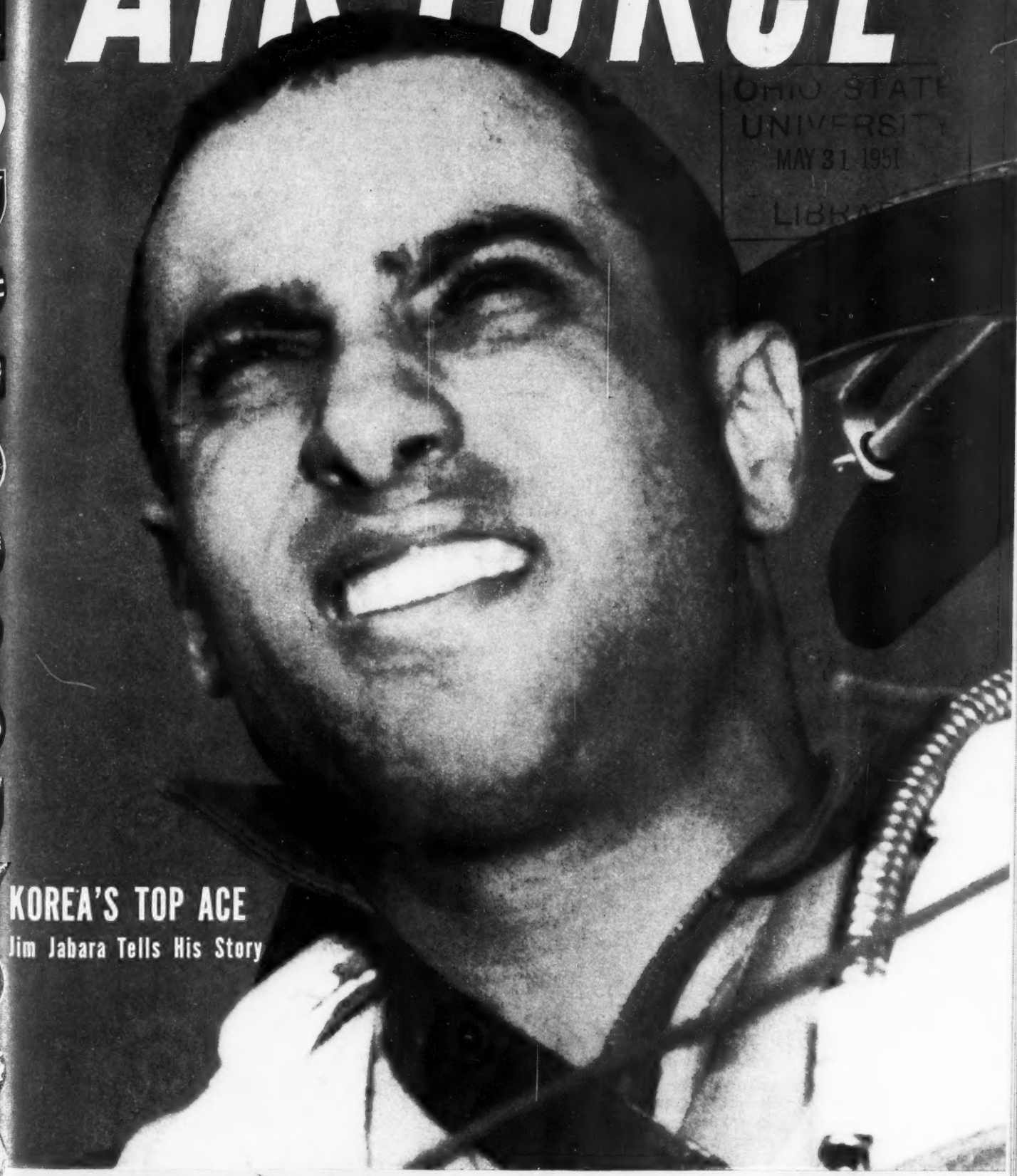

KOREA'S TOP ACE

Jim Jabara Tells His Story

Advice for new Air Force officers from:

BERNARD BARUCH • JIMMY DOOLITTLE • CARL A. SPAATZ
REPRESENTATIVE CARL VINSON • DR. THEODORE VON KARMAN

JUNE, 1951

The world's first Supersonic Spin Pit!

another "first" for the makers of Aeroprops!

Now, for the first time, propellers can be studied while spinning at supersonic speeds. Every action and reaction of new propeller designs can be watched under conditions that reproduce exactly every detail of flight.

This supersonic spin pit, developed under Navy and Air Force contracts, is in itself a radical advance in research and testing technique. And, coupled with the full facilities of General Motors, it will help increase the leadership Aeroproducts now enjoys in the field of turboprop power—the field of supersonic speed.

The Douglas XA2D with dual rotation Aeroprops is one of several Navy and Air Force planes of near-sonic speed which prove in flight the efficiency of Aeroprop design.

GM GENERAL MOTORS

AEROPRODUCTS DIVISION
GENERAL MOTORS CORPORATION
DAYTON, OHIO

Building for today
Designing for tomorrow

AEROPRODUCTS GM

Aeroproducts

How are the new Boeings coming?

"Beehives of activity" would describe the plants where the great new Boeing bombers and transports are being built. In these days of crisis, they're an encouraging sight.

Production schedules on B-47 Stratojets—the world's fastest known bombers—have been heavily stepped up. Additional B-50 Superfortresses are in production. Modification of B-29's into aerial refueling tankers is on accelerated schedule. And more and more double-deck C-97 Stratofreighters are going to the armed forces as hospital ships, aerial refueling tankers, and cargo and troop carriers.

Even more advanced planes are taking shape at Boeing, too. The latest is the B-52 jet heavy bomber which the Air Force has announced it is ordering into production.

While speeding production, Boeing has also constantly improved its manufacturing efficiency—thus reducing costs. Through price reductions on B-50 and C-97 contracts during the last two years, Boeing has saved the government $45,000,000.

As always, engineering and manufacturing people work as a team at Boeing to produce the finest airplanes at lowest possible cost to the taxpayer. They combine high technical skills with a heritage of unmatched experience in building four-engine aircraft. Today, all of their skill and experience is devoted to building the great new Boeings whose speed, range and striking power contribute so much to America's defense.

For the Air Force, Boeing builds the B-50 Superfortresses, B-47 Stratojets and C-97 Stratofreighters; and for the world's leading airlines, Boeing has built fleets of the new twin-deck Stratocruisers.

BOEING

COMPLETELY INTEGRATED SYSTEM WILL AUTOMATICALLY CONTROL CABIN PRESSURE AND TEMPERATURE FOR MAXIMUM PASSENGER COMFORT FROM SEA LEVEL TO OVER 20,000 FEET!

Once again AiResearch is the choice! Consolidated Vultee Aircraft Corporation has designated AiResearch pressurizing and air conditioning for its new Convair Liner 340 air transport.

This is the third new high-altitude commercial air transport announced in the United States in the past year to be *completely* pressurized and air conditioned by AiResearch. In addition to the Convair Liner 340, these advance aircraft types are the Martin 4-0-4 and the Lockheed 1049 series Super Constellation.

The systems designed and built by AiResearch for the Convair Liner 340 include 23 different items such as cabin superchargers, cooling turbines, heat exchangers, water separators, complete electronic temperature control systems, cabin pressure control valves, and selector controls.

Completely integrated, the system will control cabin altitude and air conditioning automatically from sea level to over 20,000 feet, *including air conditioning while the airplane is on the ground.*

AiResearch is the only company supplying such *complete* pressurizing and air conditioning systems from a single source. Today AiResearch systems, or component parts, are used on *all* high-altitude commercial transports built in the United States.

• ***AiResearch — Specialists in the design and manufacture of equipment involving the use of high-speed wheels — is a leader in the following major categories:***

AiResearch
DIVISION OF
THE GARRETT CORPORATION

Air Turbine Refrigeration • Cabin Superchargers • Gas Turbines • Pneumatic Power Units • Electronic Temperature Controls
Heat Transfer Equipment • Electric Actuators • Cabin Pressure Controls

AiResearch Manufacturing Company, Dept. L-6, Los Angeles 45, California

AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

JUNE, 1951 VOL. 34, No. 6

THIS IS AFA

The Air Force Association is an independent non-military, airpower organization with no personal, political or commercial axes to grind; established and incorporated as a non-profit corporation February 4, 1946.

Active Members are men and women honorably discharged from military service who have been assigned or attached to the US Air Force or its predecessor services, or who are currently enrolled in the Air Force Reserve or Air National Guard. **Service Members** (non-voting, non-office holding) are men and women currently assigned or attached to the US Air Force. **Associates** (non-voting, non-office holding) are men and women not eligible for Active or Service Membership who have demonstrated an interest in furthering AFA's aims and purposes, or in proper development and maintenance of US airpower.

ITS OBJECTIVES

To preserve and foster the spirit of fellowship among former and present members of the Air Force, and to perpetuate the identity and group solidarity of wartime Air Force units large and small.

To assist in obtaining and maintaining adequate airpower for national security and world peace.

To keep AFA members and the public at large abreast of developments in the field of aviation, and to stimulate community interest in Air Force activities and installations.

ITS OFFICERS AND DIRECTORS

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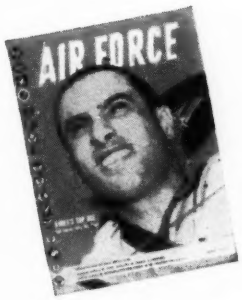

THE COVER

Just as this issue of AIR FORCE was going to press we received word that Captain Jim Jabara, history's first jet ace, had capped his combat career by being awarded the Distinguished Service Cross on May 22. We are happy to give our readers an exclusive first-person story by the outstanding flyer of the Korean war.

READ "WE FLY MIG ALLEY" PAGE 23

AIR FORCE STAFF

JAMES H. STRAUBEL, Editor and Publishing Director

JOHN F. LOOSBROCK, Managing Editor — WILLIAM A. DEAN, Art Director

JAKE CULPEPPER, Associate Editor — HELENA REDMOND, Contributing Editor

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ONE ENGINE DOES THE WORK OF FOUR.
In its successful flight tests, a single T-34 Turbo-Wasp powered a Flying Fortress with all four of its regular 1,200 h.p. piston engines cut out. It has been selected to power an advanced version of the C-124 Douglas Globemaster.

Performance of Two Powerful New Turbo Engines —Designed, Developed and Built by Pratt & Whitney proves once again that:

"All the Years of Work are worth it when the Prize is Air Supremacy"

SOON Pratt & Whitney Aircraft will undergo a major plant expansion—the primary goal of which will be the accelerated production of its two new power plants, the J-57 and the T-34.

AND ANOTHER STEP will have been completed in a tremendous undertaking that started back in 1945.

THEN IT WAS that Pratt & Whitney laid down its first, *independent*, design for high-power axial flow gas turbine engines. Since then, six years of engineering effort and thousands of man hours have been spent on their development.

TODAY THOSE ENGINES are ready to be committed to volume production. The performance of both has been so outstanding that they have *already* been ordered in substantial quantities by the Armed Forces . . . and are destined to play an important part in maintaining air supremacy for this nation.

T-34 Turbo-Wasp: The most powerful propeller-turbine engine now flying in either the U. S. or England, the T-34 is rated from 5,000 to 6,000 h.p. Developed under U. S. Navy, the T-34 delivers 90% of its power to the propeller shaft with the remainder in jet thrust. It has a higher power weight ratio and lower fuel consumption than any engine in this category.

J-57 Turbo-Wasp: A very advanced turbo-jet, the J-57 is demonstrating performance characteristics, particularly with regard to fuel economy, substantially superior to those of any other turbo-jet engine known to be in a similar stage of development. Developed under Air Force sponsorship, the J-57 has been chosen for vital military aircraft installations that remain classified.

Pratt & Whitney Aircraft

PRATT & WHITNEY AIRCRAFT — DEPENDABLE ENGINES

ONE OF THE FOUR DIVISIONS OF
UNITED AIRCRAFT CORPORATION
EAST HARTFORD, CONNECTICUT

EXTRA!! Eleven Los Angeles Hotels Are Alerted to Rec A. Se

WEATHER
August is "warm, rainless, windless" in this Land of the Beckoning Climate.

The A A

VOLUME 5 — LOS ANGELES, CALIFORNI — UGUST 2

AIR FORCE REUNI

AFA PROGRAMMING AIRPOWER FORUMS WILL HIGHLIGHT BUSINESS SESSIONS

Arthur Kelly Named Meeting Chairman; August Meeting Is 'Most Important'

WASHINGTON—"Events of the day make certain that this will be the most important annual meeting in the history of the Association," said Arthur Kelly, Los Angeles, in accepting President Bob Johnson's appointment as 1951 Convention Chairman.

A national director and former vice president of AFA, Kelly now serves as a member of the USAF's Air Staff Committee on Reserve Policy.

Kelly referred to the many complex mobilization problems with which delegates will be faced in formulating their annual Statement of Policy at the big Los Angeles convention.

Air Force reserve affairs will occupy a prominent position in the resolutions. Since the 1950 convention in Boston, the entire reserve program has come up for review. Airpower forums, so popular in Boston, will certainly feature the reserve question.

Convention business sessions will also highlight, in addition to the annual election of officers and directors, action regarding squadron programming, wing and squadron financing. The entire AFA program will be re-examined in light of the present mobilization period.

(Continued in Los Angeles)

HEADQUARTERS AT WORLD FAMOUS AMBASSAD

Beautiful Lido Pool, above, at the Hotel Ambassador, convention headquarters, is one of many vacation spots awaiting delegates. Ambassador always has spectacular Cocoanut Grove. able scene of the Reunion Cocktail Party. convention hotels boast like attractions.

Movie Stars Galore!
The Wing Ding Is the Thing

LOS ANGELES—Hollywood's greatest stars are expected to take part in the Wing Ding of 1951, feature attraction of AFA's national convention, on Friday night, August 24, at the Hollywood Bowl.

With Louis B. Mayer of MGM head of the sponsoring civic committee and Jimmy Stewart, Hollywood star and AFA director, as Wing Ding Chairman, all-out Hollywood participation is assured.

Mervyn LeRoy, famous movie producer, will represent Mr. Mayer for the event. Tex McCrary, New York television star, who co-produced the great AFA Wing Ding of 1948 in Madison Square Garden, is due to direct this year's show.

AFA members will recall the unsurpassed 1948 Wing Ding, with Bob Hope, Clark Gable, Lena Horne, Marlene Dietrich, Dinah Shore and more than 50 nationally-known performers in the starring roles.

Hollywood observers predict that the 1951 Wing Ding will top even that performance.

Hollywood Bowl, a great outdoor arena seating more than 20,000, presents a natural setting for the star-studded Wing Ding of the year.

(Continued in Los Angeles)

UNIT REUNIONS GET BIG PLAY

WASHINGTON—Reuni wartime Air Force org tions will again spark annual convention.

These "conventions wi convention" steal the sh ery year. More than 30 fledged unit reunions wer in Boston in 1950. This n is expected to be exceed Los Angeles.

Men interested in thei reunion are asked to c AFA Headquarters in ington, coordinating agen all these events.

(Continued in Los Ange

Re A. See Page 62 for Accommodations. Make Reservations Now!

A Call

CIRCULATION
Auto, Airline, Air Coach, Bus, Rail.
Low Cost Agency Tours Are Available.

ORNIA AUGUST 24, 25, 26, 1951 FIVE ★ EDITION

I AND CONVENTION

BULLETIN

conventioners can enjoy ex- e vacation privileges, nor- unavailable to them, from August 20 to 26.

E'S PROGRAM CONVENTION!

DAY-THURSDAY
. 20-23)
cial vacation privileges

RSDAY (AUGUST 23)
istration begins
ting of AFA leaders
ional committee meetings

AY (AUGUST 24)
istration
nion Cocktail Party
A business sessions
bilization Forums
t Reunions
g Ding (Hollywood Bowl)

URDAY (AUGUST 25)
A business sessions
bilization Forums
t Reunions
nual Airpower Banquet

DAY (AUGUST 26)
nual Dawn Patrol Break- ast
al Business Sessions

ATZ LEADS PARADE
eral Carl A. Spaatz (Ret.), Chief of Staff of the USAF present Chairman of the d of AFA, has sparked nvention planning. During trips from his home in ington to the California ntion city, General Spaatz lined up the convention rs and organized the major nittees.

(Continued in Los Angeles)

'Best Vacations Ever' Promised AFA's Delegates and Guests

CIVIC COMMITTEE FORMED

Film Magnate, Industrialist Head Convention Sponsors

LOUIS B. MAYER
Civic Committee Chairman

J. H. "DUTCH" KINDELBERGER
Finance Chairman

LOS ANGELES—Civic committees for AFA's 1951 Air Force Reunion and Convention were formed at an organization meeting May 12 in Beverly Hills with Generals Ira Eaker and Harold George, top wartime Air Force commanders, acting as hosts. General Carl A. Spaatz, AFA Board Chairman, conducted the meeting.

Louis B. Mayer, Chairman of the Board of Metro-Goldwyn-Mayer, one of the great leaders of the motion picture industry, will chairman the Civic Committee sponsoring the Reunion and Convention.

J. H. (Dutch) Kindelberger, Chairman of the Board of North American Aviation, is the Finance Chairman.

Those attending the May 12 meeting included Lt. Gen. A. C. Wedemeyer, CG, Sixth Army; Maj. Gen. Emmett (Rosy) O'Donnell, CG, 15th Air Force; Charles Luckman; Hollywood producers Mervyn LeRoy, Henry King and Merian Cooper; aviation industrialists Donald Douglas Jr. and John K. Northrop; airline leader T. C. Drinkwater; Harold A. Henry, president, Los Angeles city council; Admiral Robert Berry, Director of Civil Defense; Fred C. Walker, p-esident, Los Angeles Junior Chamber of Commerce.

(Continued in Los Angeles)

California Setting Perfect for AFA's 5th Anniversary

LOS ANGELES—In this glittering capital of the Great West the stage is set for the 1951 Air Force Reunion and National Convention of the Air Force Association.

Here where the word "colossal" was born and raised under the tropical sun of Southern California and the Kleig lights of Hollywood, super adjectives are being used to describe the time that awaits Air Force people over the weekend of August 24-26 and, for the vacationers among them, during the entire week beginning August 20.

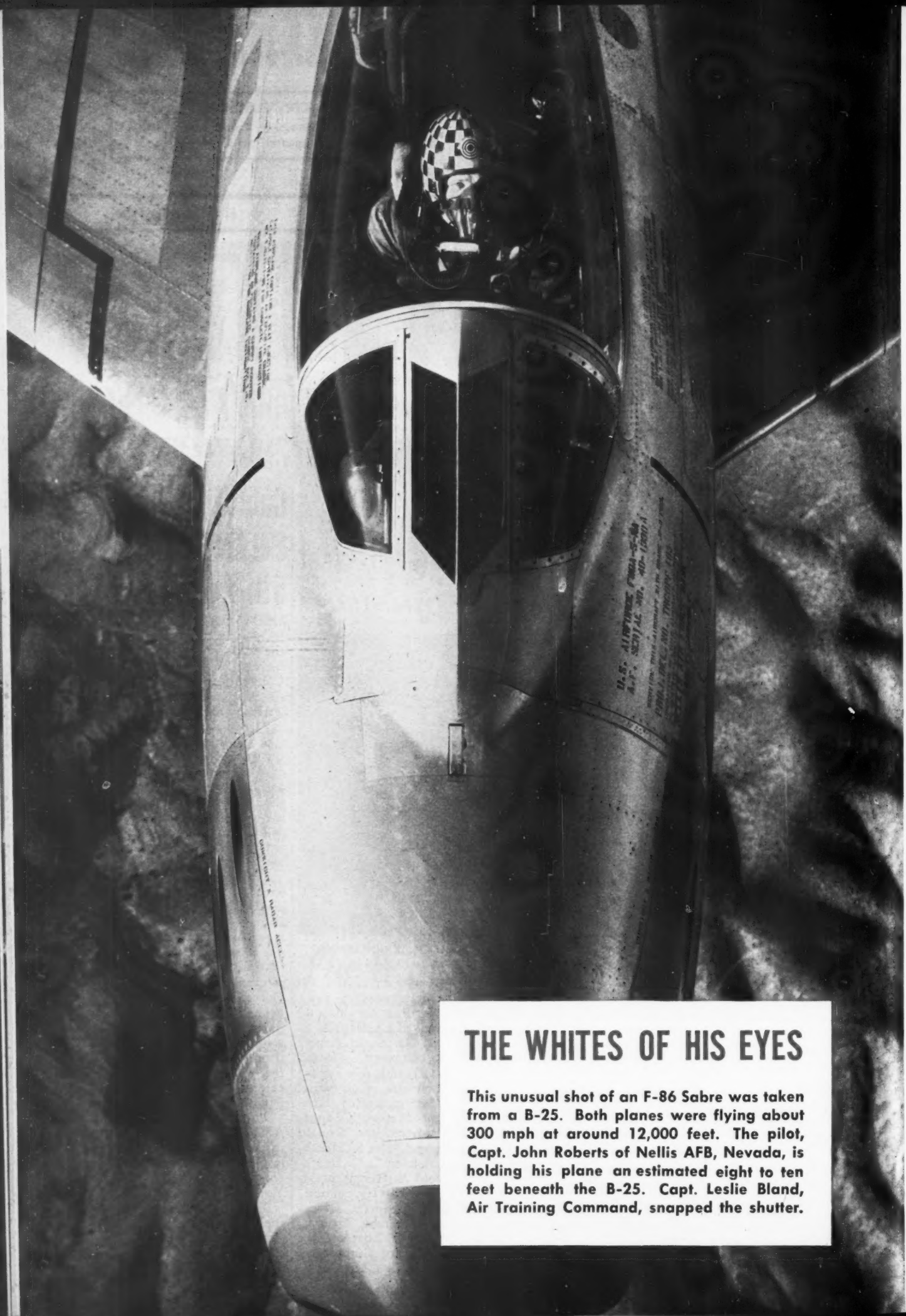
"We'll give them the best vacation they have ever had," civic and convention leaders declare in unison, and you believe them as you observe the manner in which individuals, organizations, and industries are pitching in to make this Air Force Reunion the biggest and best of its kind.

As the gilt-edged, star-studded welcome mat is laid out amid the palm trees and rolling surf, the setting is ideal for AFA to celebrate its Fifth Anniversary during the convention.

This will be the first time AFA has held its annual meeting west of the Mississippi, and it promises to eclipse previous conventions in Columbus, New York, Chicago, and Boston.

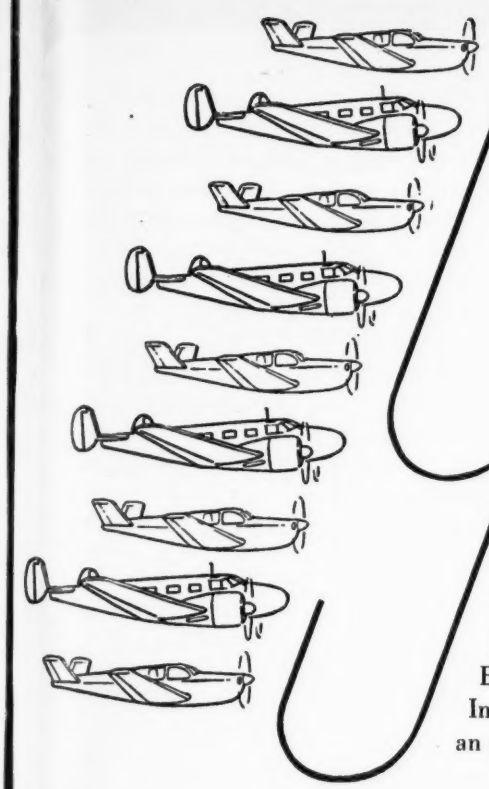
The Honorary Chairman for the affair is the mayor of Los Angeles himself, the Honorable Fletcher Bowron.

(Continued in Los Angeles)



THE WHITES OF HIS EYES

This unusual shot of an F-86 Sabre was taken from a B-25. Both planes were flying about 300 mph at around 12,000 feet. The pilot, Capt. John Roberts of Nellis AFB, Nevada, is holding his plane an estimated eight to ten feet beneath the B-25. Capt. Leslie Bland, Air Training Command, snapped the shutter.



9 WAYS

Ohio Oil Company personnel save days, dollars...and energy

The Ohio Oil Company keeps nine Beechcrafts on the go—five Bonanzas, four Executive Transports.

States the manager of Ohio's aviation department: "It takes just four hours from Findlay, Ohio, where most of our Beechcrafts are based, to our division office at Tulsa, Oklahoma. In our fast-moving business, Beechcrafts let us set an efficient, profitable pace."

Beech "Twins" have proved themselves all over the world—in service of leading industries and the armed forces alike. Soundproofed cabin and custom-interior plans insure fatigue-free travel. Exceptional speed (maximum 230 mph) and any-season dependability give key men unsurpassed ability to move—*fast*. For full information see your Beechcraft distributor. Or write to Beech Aircraft Corporation, Wichita, Kansas, U.S.A.

- Cruising speed, 200 mph
- Range up to 900 miles
- Service ceiling, 20,500 ft.
- Seating arrangements for 7, 8 or 9

Beechcraft

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

POISON on the NIGHT SHIFT

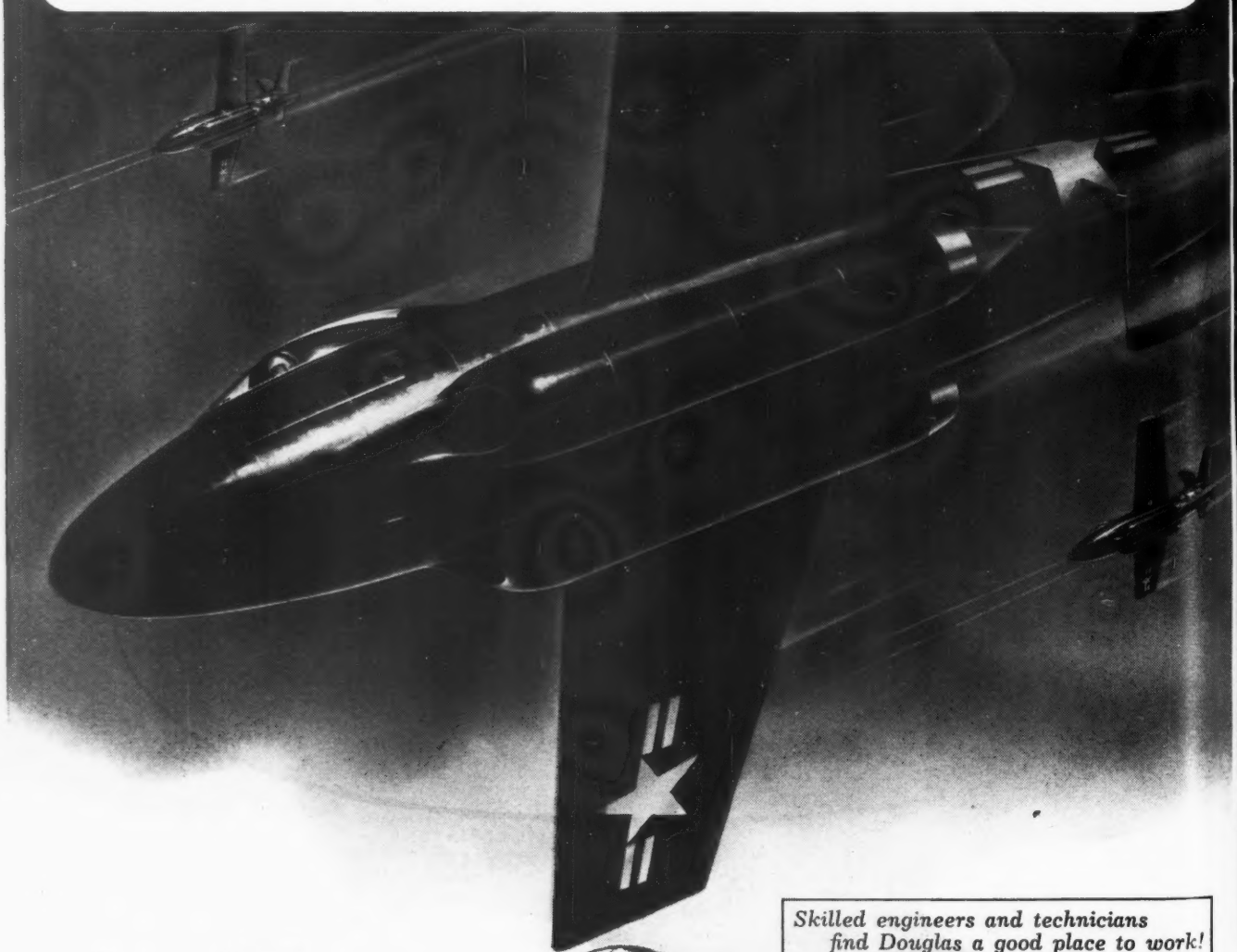
F3D Skyknight—Navy's first jet night fighter—now in production at Douglas El Segundo!

On the blackest night—in the foulest weather—Navy airmen can now find and fight enemy planes, even though they're eight miles up.

The new aircraft that gives our Navy this round-the-clock combat effectiveness is the Douglas-built F3D Skyknight. It is the *first* jet fighter specifically designed for night combat.

Equipped with electronic devices for early detection of enemy aircraft, the Skyknight is adaptable as an attack fighter, long-range patrol or reconnaissance airplane, or as a long-range fighter escort.

The Skyknight is just one of many planes that Douglas is designing and building to help keep America *first* in the air. It is further evidence that *Depend on Douglas* is more than just a famed slogan. Douglas Aircraft Company, Inc.



Skilled engineers and technicians find Douglas a good place to work!

Depend on **DOUGLAS**

WORLD'S LARGEST BUILDER OF AIRCRAFT FOR 30 YEARS ➤ MILITARY AND COMMERCIAL TRANSPORTS
FIGHTERS ➤ ATTACK PLANES ➤ BOMBERS ➤ GUIDED MISSILES ➤ ELECTRONIC EQUIPMENT ➤ RESEARCH

AIRPOWER IN THE NEWS

VOL. 34, NO. 6 WASHINGTON, D. C. JUNE, 1951

$19.8 BILLION to build the Air Force toward its 95-wing objective in fiscal year '52 was asked by Mr. Truman in his latest budget message to Congress. Construction of aircraft and related procurement will require an estimate of $10,952,620,000; Reserve and ROTC requirements are $23,100,000; and $87,900,000 is slated for ANG. . . AF expects to reach its personnel strength goal of 1,060,000 by Sept. or Oct. 1952.

TECHNICAL TRAINING AIR FORCE, component of Air Training Command, will be established by USAF at Biloxi, Miss., in near future. . . An advanced echelon of AF's Air Research and Development Command Headquarters, charged with recruiting additional scientific personnel, will soon move to temporary location in Sun Building in Baltimore. ARDC headquarters is now divided between Washington, D.C., and Wright-Patterson AF Base in Dayton. . . Bryan AF Base, Tex., now in standby status, will be reactivated early this summer as an advanced single-engine jet training school.

SEVENTH AIR DIVISION of SAC has been activated in United Kingdom and is commanded by Maj. Gen. Archie J. Old, Jr., formerly deputy commander of 8th AF in U. S. . . An overseas air depot will be activated near Chateauroux, France, by USAF this summer, under Mutual Defense Assistance Program. Brig. Gen. Joseph H. Hicks, of AMC in Dayton, and a skeleton staff are now in Chateauroux making preliminary arrangements. . . AF has completed preliminary negotiations with Navy for use of two portions of Shoemaker military reservation at Pleasanton, Calif., as site for a third USAF Indoctrination Training Center.

RESUPPLY OPERATIONS into joint Canadian-U.S. weather stations in far northern Arctic archipelago have been completed. . . All Weather Service (MATS) officers will visit 124 AF ROTC units at colleges and universities in near future to discuss military meteorology as a career. Representatives will meet with members of 1951 AF ROTC classes and outline many opportunities offered to qualified graduates in field of military meteorology.

W. SPENCER THOMPSON, Special Assistant to President of Ford International, has been appointed chairman of newly-created committee of educators and businessmen evaluating AF personnel utilization and training. He served in Navy during World War II and as a director of administration with UN following the war. . . AF battle casualties in Korean area through April 20 totaled 531. . . USAF hopes to recruit 2000 additional nurses within the next fourteen months, a move that would approximately double present strength of the Corps. New nurses would be encouraged to apply for flight nurse training after entering active duty.

AF's DOUGLAS C-124 GLOBEMASTER II has flown with maximum weight of 210,000 pounds including a pay load of over 70,000 pounds -- heaviest load ever lifted by production transport airplane. . . Design competition conducted by AF for "Convertiplane" combining take-off and landing characteristics of helicopter with speed and range performance of fixed wing aircraft, has been completed and designs submitted by McDonnell, Bell and Sikorsky Division of United have been selected for further development.

(Continued on page 12)

AIRPOWER IN THE NEWS CONTINUED

A MILLION DOLLAR SERVICE CLUB slated to be erected at Travis AF Base has been approved by Pentagon officials. When completed it will house a library, swimming pool, theatre for stage shows, restaurant, radio studio, large dance floor, and many other facilities.

CENTRAL MILITARY PROCUREMENT INFORMATION OFFICE of Munitions Board, Department of Defense, has moved from Pentagon to Old Post Office Building, 12th and Penna. Ave., N.W., in downtown Washington. . . Civilian Personnel Division at Wright-Patterson AF Base at present time has approximately 100 types of engineering scientific and technical positions open which are termed critical and about 40 other types available which are hard to fill.

GOVERNMENT CONSTRUCTION OF DEFENSE PLANTS as requested by Administration received a cold shoulder in Congress. . . Indications are that big cutbacks in civilian consumption of steel, copper and aluminum are in the offing. Cuts may range as high as 65 percent for steel, 50 percent for copper and aluminum.

DONALD W. NYROP, new Chairman of CAB, has been appointed a member of NACA by the President. He succeeds Delo W. Rentzel, who was named Undersecretary of Commerce for Transportation. . . General Donald H. Connolly, director Baltimore's Department of Aviation, is currently serving as Special Assistant to Undersecretary of Commerce for Civil Aviation Mobilization for a period of 90 days. . . Rex Cleveland, one of NY TIMES' pioneer aviation editors, is new president of Wings Club.

CONVAIR-TURBOLINER, America's first turboprop transport, has flown from San Diego to Muroc in 47 minutes and continued its test flight in Muroc area for one hour and 36 minutes. . . Douglas and Lockheed will build the swept-wing B-47, fastest-known bomber in the world, at reactivated World War II plants to complement the substantial Stratojet production already underway at Boeing's Wichita Division. . . H. Lloyd Child, veteran test pilot and aviation executive engineer, has been appointed assistant director of Republic's activities at AF's flight test center, Edwards AF Base, Calif.

NATIONAL AIR RACES, formerly held at Cleveland, will be conducted this year at Wayne County Airport in Detroit on August 18-19. Ben T. Franklin, who has managed the NAR for past four years, will be in charge of the Detroit show.

COLONEL RICHARD T. KIGHT, commanding officer of Air Rescue Service, recently received first annual "Kossler Award" from American Helicopter Society "for greatest achievement in practical application or operation of rotary-wing-aircraft, value of which has been demonstrated in actual service during year". . . As of April 20, aircraft of 3rd Air Rescue Squadron had evacuated 1,646 UN personnel in front line operations or from behind enemy lines in Korea.

FUTURE NSLI DIVIDENDS will, unless otherwise requested, be applied in payment of premiums rather than paid in cash. New law affects dividends payable after January 1, 1952; however, it has no effect on mode of payment of second dividend, for which checks are now being mailed.

Next–COMPLETELY Automatic Flight!

That's the exciting possibility that will open up for the future after a B-50 crew tests Honeywell's new Automatic Master Sequence Selector.

This device, being researched and developed by Honeywell engineers and the All Weather Flying Division of the Air Materiel Command, is designed to make flying easier. Plans are to guide the Boeing Superfortress automatically — from take-off to landing — over any preselected course.

Holes punched in a roll of tape will dictate the complete flight plan. This roll of tape — something like a player piano roll — will "master-mind" the Selector.

For civilian and military aircraft, this latest product of Honeywell research and ingenuity may well mean greater utilization of aircraft—through elimination of human error. Each day this becomes more and more important—as instrument panels and air traffic problems grow more complicated.

Development of the Automatic Master Sequence Selector represents just one of the many aircraft control problems being researched and solved by Honeywell engineers. We expect to be given many others in the years to come — because *automatic control* is such an important part of aviation progress. And *automatic control* is Honeywell's business.

AERONAUTICAL DIVISION

MINNEAPOLIS-HONEYWELL • MINNEAPOLIS 13, MINN.

MINNEAPOLIS
Honeywell
Aeronautical Controls

RIGHT for the Constellation...

RIGHT for the Strategic Bombers

Constant check *while in flight* of engine performance . . . so successful in cutting ground time for giant airliners . . . is now being made for the U. S. Air Force's strategic bombers B-36 and B-50 by the Sperry Engine Analyzer.

► Flight engineers aboard the bombers and commercial airliners such as the Constellation and the Stratocruiser find that the Engine Analyzer *detects*, *locates* and *identifies* in seconds . . . through graph-like patterns on the scope . . . irregularities in power plant operation.

► Upon landing this information is passed on to the ground crew who can proceed at once with the necessary maintenance work. Result . . . maintenance time frequently cut from hours to minutes . . . many more potential flying hours.

► For both the airline operator and the military, the Sperry Engine Analyzer pays off in increased aircraft utilization . . . tighter departure schedules . . . savings of thousands of dollars annually.

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AIR MAIL

More March Dividend

Gentlemen: I have just finished reading the splendid article, "What Is Tactical Airpower," in AIR FORCE Magazine, March 1951. It is clear that great pains were taken to spell out the entire theory regarding Air-Ground operations. It is my humble opinion that this article should be widely circulated. Three days ago I was a guest at a Naval installation and several officers asked me "Why doesn't the Air Force provide close support for the Army?" I was fortunate in having just completed your article, which provided me with good facts. Be-

ing an Air Force magazine, although not sponsored by that establishment, does not make it difficult for you to convince your readers. However, when such a fine article as this appears it should be brought before the man on the street. Undoubtedly you have received many letters with this suggestion; however, as a member of Air Force Association I wish to state my thoughts and beliefs. Congratulations for an article well presented.

Major Roland H. Brady, Jr., USAF
APO 633, New York

Gentlemen: The special March edition of AIR FORCE Magazine should be required reading for every man in the armed services. Better yet, it might well be a strong part of the indoctrination course required of the trainee in every service. Such clarity and simplicity in pointing out the joint mission of combat units gives a new and understandable evaluation of solid facts usually obscure until experienced in actual combat. Perhaps the most difficult task of a combat intelligence officer in the Air Force during the European operation was to convince the combat crews that air operations must be coordinated within the overall plan. No single isolated crew nor operation could be fully effective. We *all* won the war. Would it be out of line to recommend to the Joint Chiefs the value of using this March edition to further educate our people?

C. E. McKinney
Erie, Pa.

• *These letters were received after publication of the March report in our May issue. Readers Brady and McKinney are invited to read Breeze in last issue.*

A Major Responsibility

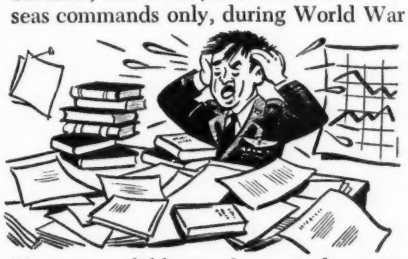
Gentlemen: I am so moved by the column "Shooting the Breeze" in the May issue that I wish to congratulate you upon it. Members of the Association do not see the mass of mail stimulated as a result of your magazine articles. Consequently, we have no way to appreciate the influence or appraise the implications of the whole effort of the Association. Such an appraisal, repeated periodically, is one of your major responsibilities toward the membership and I am pleased to see that you recognize and act upon this responsibility. When I see, through your eyes, the cumulative effect of the Association and magazine I feel my membership is well justified.

Edward W. Harding
Wood Acres, Md.

• *Reader Harding and other AFA members may be interested to know that the special Korean report in the March* AIR FORCE *was quoted at length last month during the Senate's MacArthur inquiry; that a condensation of General Spaatz' article, "The Airpower Odds Against the Free World," from the May* AIR FORCE, *appears in the June* Reader's Digest.

Nothing's Impossible

Gentlemen: In the April 1951 issue of AIR FORCE Magazine you published an article in the "Air Mail" department, page 17, written by Colonel C. W. Davies, APO 74, requesting percentages of enlisted bombardiers to officer bombardiers in the 8th Air Force during World War II. Your answer, based on information received from the USAF Flying Status Branch, indicated information on percentage figures were not available in Statistical Control Records since enlisted personnel were not authorized the MOS of a bombardier (1035). These figures on enlisted bombardiers, MOS 509, authorized in overseas commands only, during World War



II, are available in the records maintained by the Director of Statistical Services, Headquarters U. S. Air Force. Colonel Davies' query has been answered direct.

Brig. Gen. C. R. Landon, USAF
Director, Statistical Services

Crying the Blues

Gentlemen: One fact is soon realized by young ambitious engineers starting out on their career. Aircraft engine design and manufacture is just as much seasonal work as wheat harvesting or fruit picking. The rise in employment and position is fast but the firing is even faster when the arming season is over. Most professional men do not like seasonal work and choose a professional field because they believe it to provide a steady climbing future for the rest of their lives. I was an aircraft engine designer before the last war and a project engineer for the development of aircraft engines while in service during the war. In 1947 the season was over. I went back to civilian life and industry only to find aircraft engine designers were a drag on the market, to be hired at a dime a dozen. With seven years of experience as an aircraft engine designer, I found I could get a higher salary by starting out anew in some other field of engineering alongside of men just out of college. I turned to the field of electronics and electricity and was able to start from scratch at a thousand dollars more than my old employer was willing to pay at my return. I soon found many

engine designers had been forced to do the same thing. Industry and the armed services are crying the blues. Now there aren't enough engine designers and persons with the know how to produce engines. I am an AF Reservist and have been called back into service to help fill this shortage, but there are not enough obtainable reservist engineers to relieve this situation. Most of the engineers wised to the disadvantages of being a reservist in engineering where the private corporation needs you and does not want to lose you in time of defensive emergency. I like aircraft engine design. I signed and took an oath to aid the Air Force and my country in time of need. I am willing to change back into this transient harvesting field, but I hope it can be made less seasonal after the present emergency. Industry has itself to blame for the present and will still be to blame in the future if promising engineers turn from aircraft engine design to other engineering fields.

G. W. D.
Washington, D. C.

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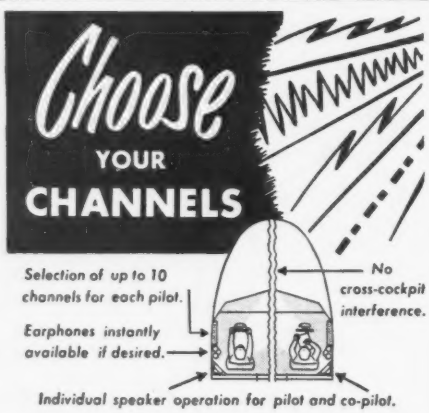

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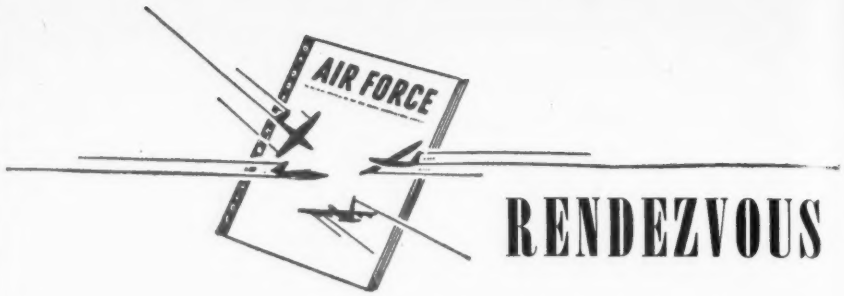


RENDEZVOUS

Where the Gang gets together

OLD INSIGNIA: We are trying to locate a copy of the old insignia of the 367th Bomb Squadron, 306th Bomb Wing. Anyone who has a copy or can reproduce the insignia please communicate with *Major Howard T. Weeks, C. O., 367th Bomb Sq., MacDill AF Base, Florida.*

UNIT HISTORY: Could you tell me where I might obtain a history of the 27th Fighter Bomber Gp., 12th Air Force? *Sam McDaniel, Route 1, Boonville, Mo.*

MAX FADED AWAY: Can you locate a former service buddy for me? His name is M/Sgt. Max Kroll, who served as an aircraft engineer with 742nd Bomb Sq., 455 Bomb Gp., 304th Wing, 15th Air Force. Contact *Norbert F. Bailey, 216½ N. Minn. St., New Ulm, Minn.*

OPERATION FRANTIC: As a consequence of a recent transfer to New York, I would like to locate some of my old service buddies on the East Coast. I would be particularly interested in members of the 339th Bomb Sq. of the 96th Bomb Gp. (H), and 314th Fighter Bomb Sq. of the 324th Fighter Bomb Gp., and any personnel stationed at Piryatin, Russia, on the shuttle raid, "Operation Frantic." *Ed Zimont, 9 St. Pauls Rd., Hempstead, L. I., N. Y.*

CALLING COLONEL MALLORY: Would like to locate Colonel Mallory, who commanded the Columbus Army Air Base, Mississippi in 1942, and Captain Cecil V. Broadway, who was a communications officer on the base at that time. Write *Cpl. Walter L. Mock, Jr., 205 Sargeant St., Holyoke, Mass.*

FORMER CLASSMATE: Would you please help me locate a former classmate of mine—Captain James St. Clair, of San Antonio, Texas? In World War II he was with G-2. While in San Antonio I called his mother and she gave me an address on Hyde Street, San Francisco, but have lost address. *John E. Meaux, 567 North Avenue J, Crowley, La.*

FROZEN ASSETS: In July 1945 I mysteriously received a war bond in copartnership with Dayton R. Warden. He might possibly have been a friend of my son, George W. Keller, who served in the Air Force during World War II. Would like to locate Mr. Warden so that I might turn the bond over to him. *Mrs. Carrie M. Keller, RD No. 3, Allentown, Pa. (Guth's Station).*

400 MISSIONS: Would like to obtain a copy of "400 Missions", unofficial history of 97th Bomb Gp. (H) in World War II. Publisher unknown. *Robert E. Denneen, 107 Fayette St., Wollaston 70, Mass.*

UNIT REUNIONS

CHECKERTAIL CLAN: 325th Fighter Group, "Checkertail Clan"; Sixth Annual Reunion, entire Group, to be held at the Hotel Statler, Buffalo, N. Y., August 3-5. Committee needs addresses of personnel who have not received Clan Bulletins. Write to *Bob Stransky, 753 Broadway, Buffalo 12, N. Y.*

FIFTH ANNUAL SHINDIG: The 376th Heavy Bomb Group Veterans Ass'n will hold its fifth annual reunion at the Hotel Castle, Omaha, Neb., July 26-29. For details, write *Wiley Golden, 371 Probasco Ave., Cincinnati 20, Ohio.*

FORMERLY OF CASERTA: Headquarters, MAAF, and the 6718 WAC Hqs Platoon (Prov.), formerly of Caserta, Italy, will have their 1951 reunion in conjunction with AFA's Fifth Annual Reunion and Convention in Los Angeles on August 24, 25, 26. If you are planning to attend, please contact: *Peg Mitchell, 415 Bergen St., Brooklyn 17, N. Y.*

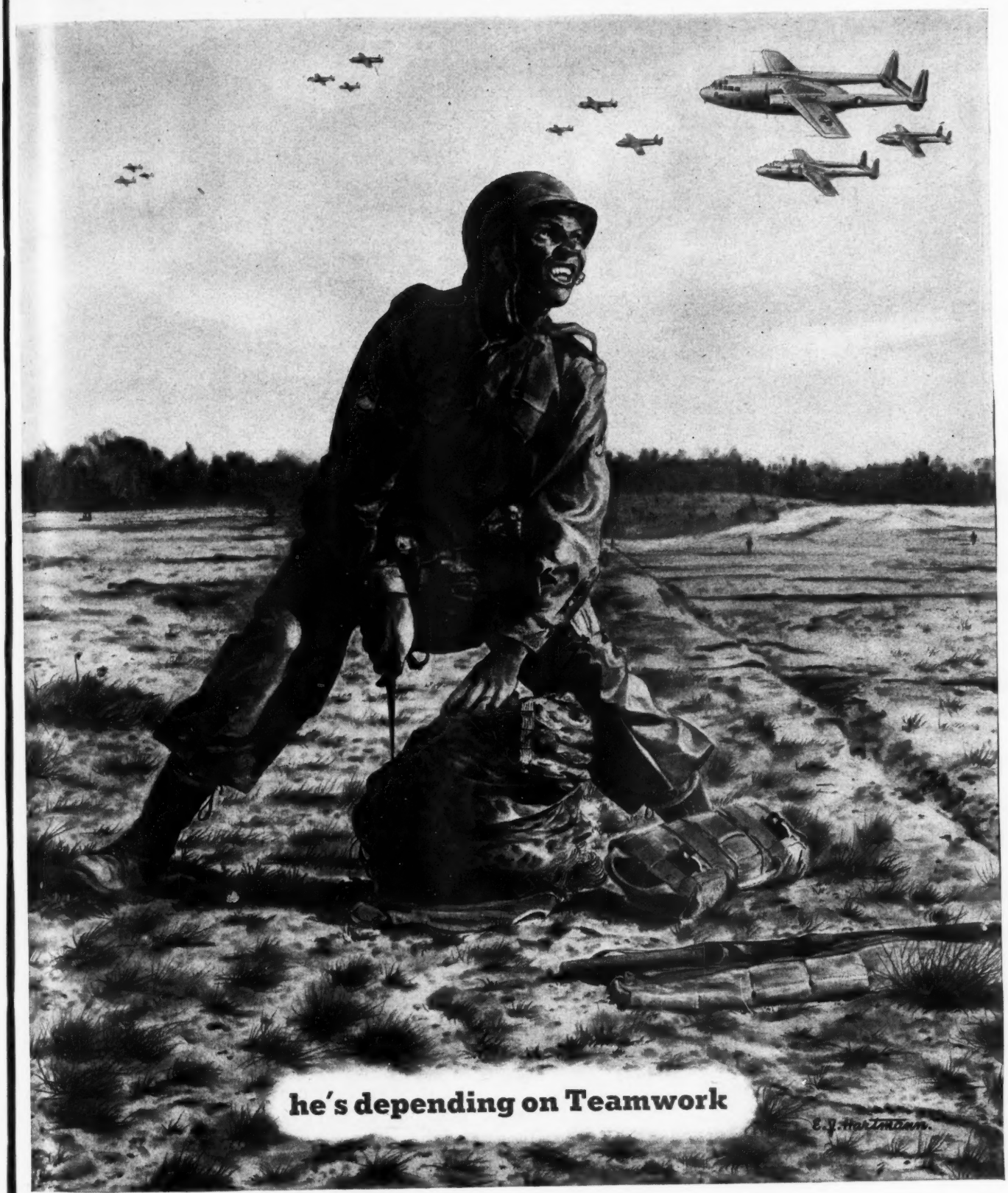
CONTACT DOLPHUS: 669th Bomb Sqdn., 416th Bomb Group's third annual reunion, Pittsburgh, Pa., first weekend in August, 1951. Write *Dolphus Whitten, Jr., Henderson State Teachers College, Arkadelphia, Arkansas.*

ASSEMBLE IN DECATUR: 379th Squadron reunion to be held on August 10, 11, and 12 in Hotel Orlando, Decatur, Ill. For further details contact *Joe Rademacher, 1523 East Willard Ave., Decatur, Ill.*

THE BIGGEST YET: The Second Air Division Ass'n will convene for its annual reunion on October 19, 20 and 21 at the Hotel New Yorker, New York City. Early indications lead us to believe that this will be the biggest reunion yet. Anyone interested in more information about the reunion or the Association should write *Ray Strong, Secretary, 33-A Glen Lennox, Chapel Hill, N. C.*, or *John J. Cunningham, President, 2 Lincoln Ave., Elsemer, Delmar, N. Y.*

BERGER FROM HAMBURG: Would you please inform me whether there is a 39th Bomb Group or 314th Bomb Wing Association and whether either of the two has any reunion pending that you know of? *Norman W. Berger, 60 North Third St., Hamburg, Pa.*

LOOKING FOR SOMEONE? ANY ANNOUNCEMENTS TO MAKE? WRITE RENDEZVOUS AND RENDEZVOUS READERS WILL WRITE YOU.



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Rotary Link—From a rough mountain slope in Korea a Sikorsky helicopter of the Marine Corps takes off over an advanced patrol after performing its vital liaison mission. Day in and day out Sikorsky helicopters have proved invaluable in maintaining contact with men in otherwise inaccessible posts—linking deep-probing advance units with troop headquarters—rapid laying of telephone wire—bringing up ammunition, hot food and medical supplies—spotting artillery fire and enemy positions—ferrying staff officers and evacuating the wounded.

The performance of these Sikorsky helicopters has been so outstanding that the Marine Corps has ordered greatly increased quantities of the latest 10-place HRS model. In addition Sikorsky has just been declared a winner of the recent Marine Corps design competition for a new type assault helicopter with far-reaching possibilities.

SIKORSKY AIRCRAFT

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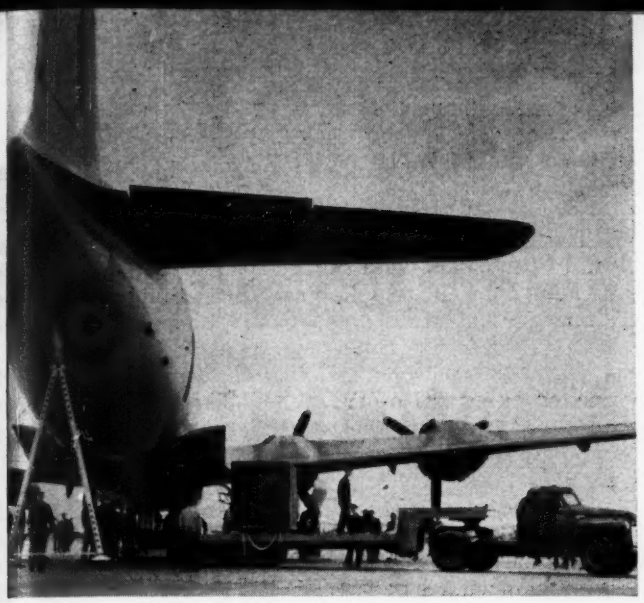
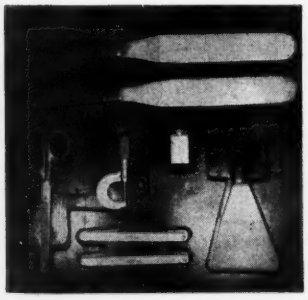
ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION



In demonstration run packaged printing press is unloaded from C-124. Truck hauls it to hangar for setting up.

Portable Printshop Can Fly to the Job



New AF development will give advance bases faster service on maps, charts, photos.

By Helena Redmond

This packaged print shop is the latest addition to the USAF's expanding list of air transportable items. Built for the Air Force by Harris-Seybold at Dayton, the new press and work-table combination will be used to reproduce aerial maps, charts, and reconnaissance photographs at advance strips and bases.

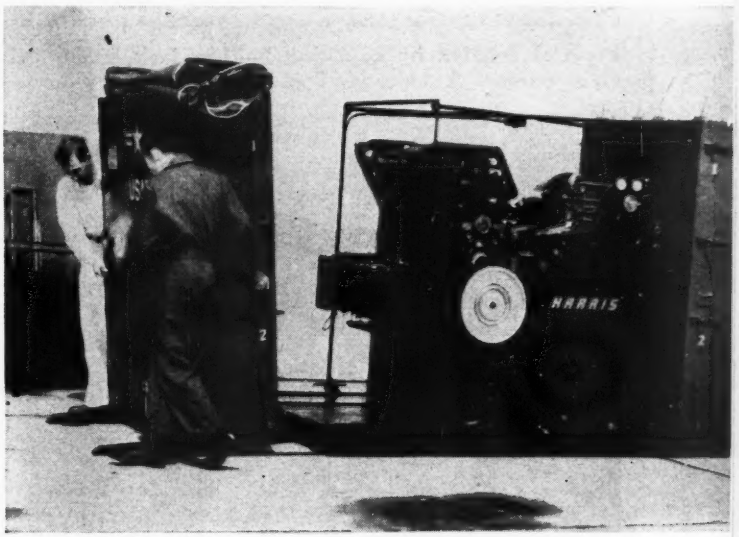
Its chief value lies in the fact that, with it, troops will have access to last minute terrain information quicker than ever before. In test runs printed matter was coming off the press only two hours after the plane carrying it had landed. This included time spent in unloading and moving the outfit to a hangar.

Heart of the outfit is a single color offset press, identical with standard commercial models except for the base. It can turn out 6,500 sheets per hour of the standard 22½x30-inch AF aerial chart size. Built-in jacks at each corner and an all-directional bubble level simplify the task of setting up. If a press isn't level the ink distribution is bad and gears and cylinders will bind.

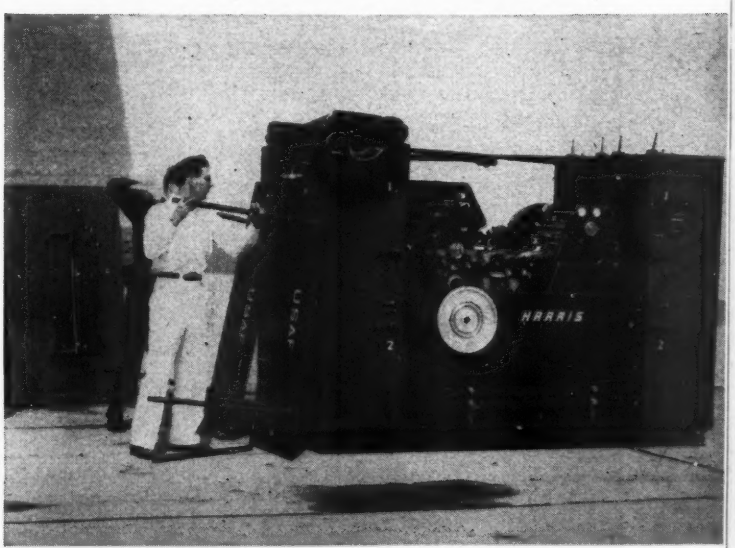
The shipping case is made of heavy marine plywood. End sections are actually work cabinets. One contains a slab for mixing ink, racks for two complete sets of press rollers, and sliding drawers with recesses for tools.

(Continued on page 20)

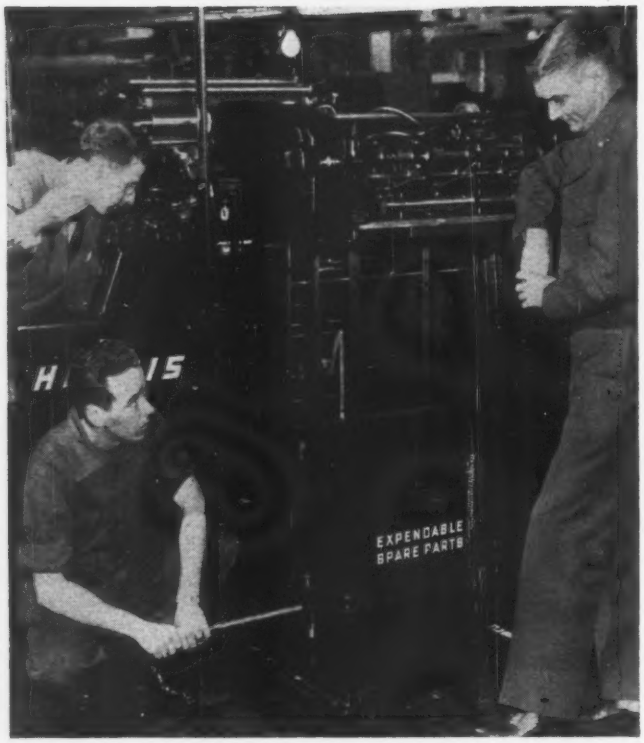
Shipping container knocks down quickly, doubles as press room when disassembled. Entire rig weighs 10,000 pounds.



Pressmen roll cabinet down ramp. Cabinet provides working surfaces, furnishes storage space for tools and accessories.



Every part does double duty. Here metal legs are screwed into side portions of packing case to serve as work tables.



Press is levelled by adjusting built-in jack screws until all-directional bubble level indicates it's ready to roll.

Only 48 minutes elapsed from time tarpaulin was removed from packaged press until first printed sheet was delivered.

PORTABLE PRINTSHOP CONTINUED

The second cabinet is fitted with a slanting table for print examination, with storage space under the table top to hold offset plates. Cabinets beneath the table hold chemicals, and small cupboards on either side hold cleaning equipment like cloths and sponges.

The press is powered by a four-horsepower motor, which runs on either AC or DC. A one-horsepower motor provides power for vacuum. Electric cables for connecting to power sources are stored in cupboards, as are lubricating guns.

Since the press is basically a standard commercial model, replacement parts and supplies will be readily available. And it means no specialized training for personnel, since it can be operated by anyone with training in commercial printing. Lightweight presses built during World War II weren't rugged enough for high quality work. Replacement parts were scarce and specially trained pressmen and mechanics were required.

Increased space and load rating of present day planes made the use of a standard press feasible. Designing the jack-raised metal floor as a substitute for the normal base, plus the packaged pressroom cabinets, transformed the bulky piecemeal pressroom equipment into one neat unit for air transportation.

Besides rapid reproduction of aerial reconnaissance photos, the press will be put to work on multi-color overlay printing on maps and charts prepared by the USAF Aeronautical Chart and Information Service. Some of these are printed in four or five colors. Psychological warfare and surrender leaflets may also be printed, for distribution behind enemy lines and in areas where civilians do not have access to uncensored news.

The Air Force has already flown the press to various AF bases for field testing. Quartermaster Corps and Corps of Engineers technicians have found the press ideally suited for ground transportation.

The press was dreamed up by officials from the USAF Aeronautical Chart and Information Service, who approached Harris-Seybold with their ideas. Within four months a new-model standard Harris press had been adapted for airborne shipment and the ingenious portable press room was designed to double as the shipping container.

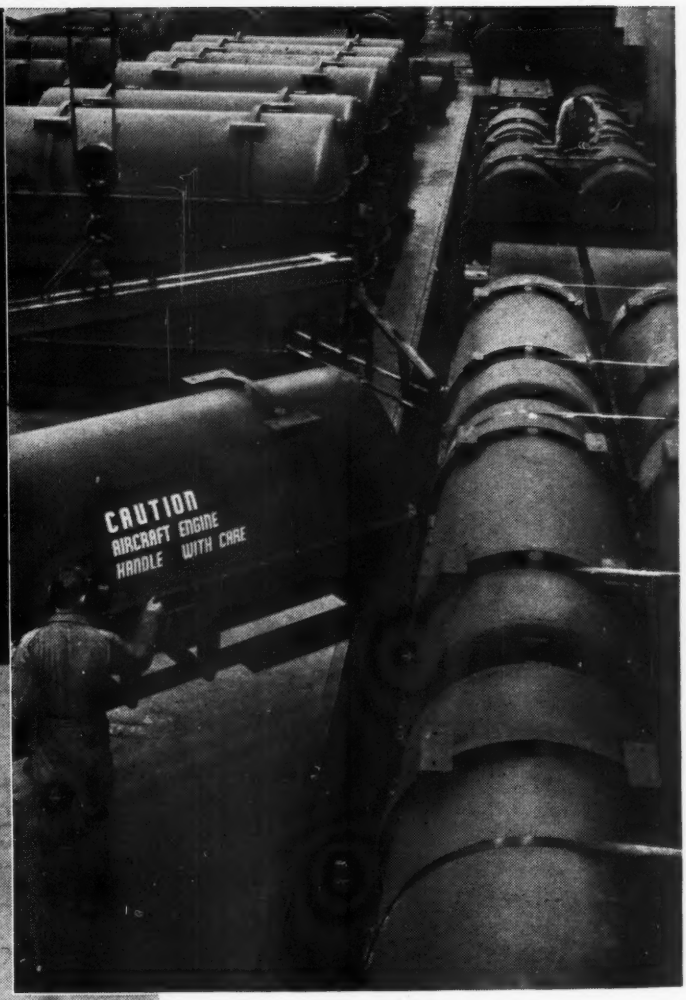
Shortly after completion of the first unit, Strategic Air Command, whose reconnaissance squadrons will be equipped with the presses, sent a C-124, one of several Air Force Cargo planes that can handle the press with ease, to Wright-Patterson ARB, Dayton. Here the four-ton package was picked up and flown to Barksdale AFB, Shreveport, La., to see how fast it could begin to turn out multi-color aerial maps.

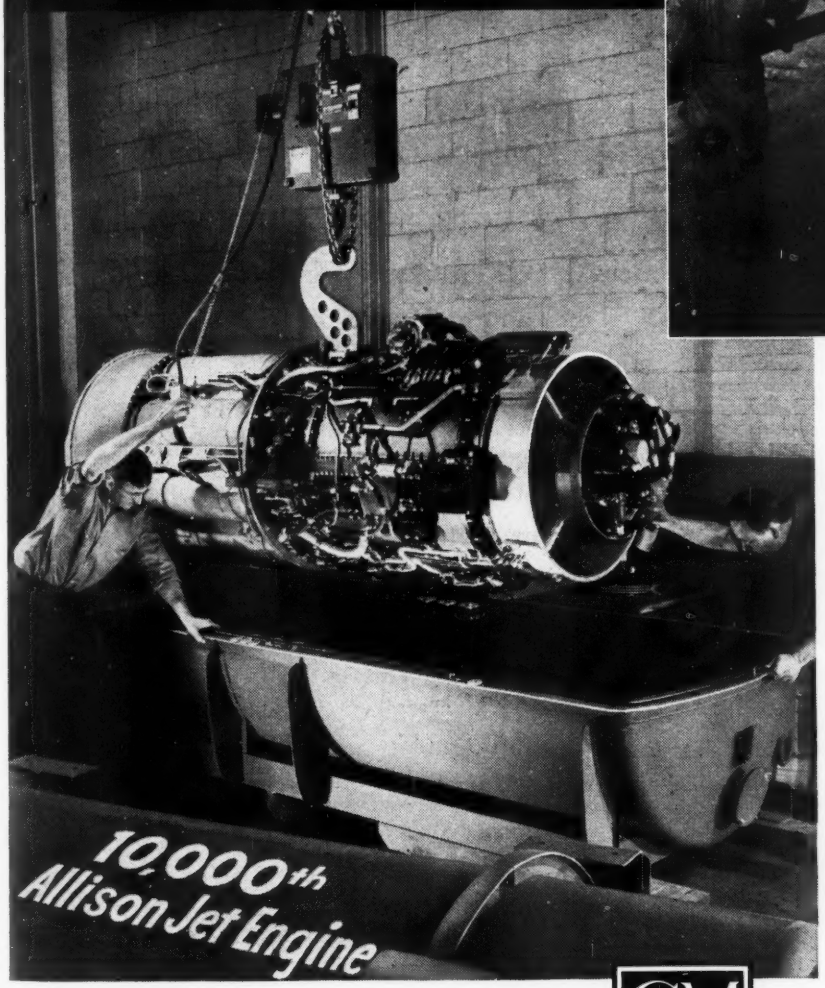
Reports from the Barksdale tests were so enthusiastic that Department of Defense officials asked for a series of demonstrations in Washington. Strategic Air Command sent another C-124 to haul the rig to Bolling Air Force Base in the nation's capital.

It was there for a week, being examined by experts in Army and Air Force psychological warfare, Aeronautical Chart and Information Service, intelligence division of the Joint Chiefs of Staff, Navy photo and mapping units, Air Adjutant General's Office, Air Force Intelligence, Air Research and Development Command, Air Materiel Command, Navy Bureau of Ships, and the Congressional Joint Committee on Printing.

From Bolling the packaged press was returned to Harris-Seybold for formal presentation to the Air Materiel Command at Dayton. AMC and the Army Quartermaster Corps are contracting for an undisclosed number of the new printing outfits.

Allison delivers its 10,000th Jet Engine





Builders of the J33 and J35 Turbo-Jet engines and T40 series Turbo-Prop engines.

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JUST six years to the month after start of production, Allison delivered its 10,000th jet engine to the U.S. Air Force.

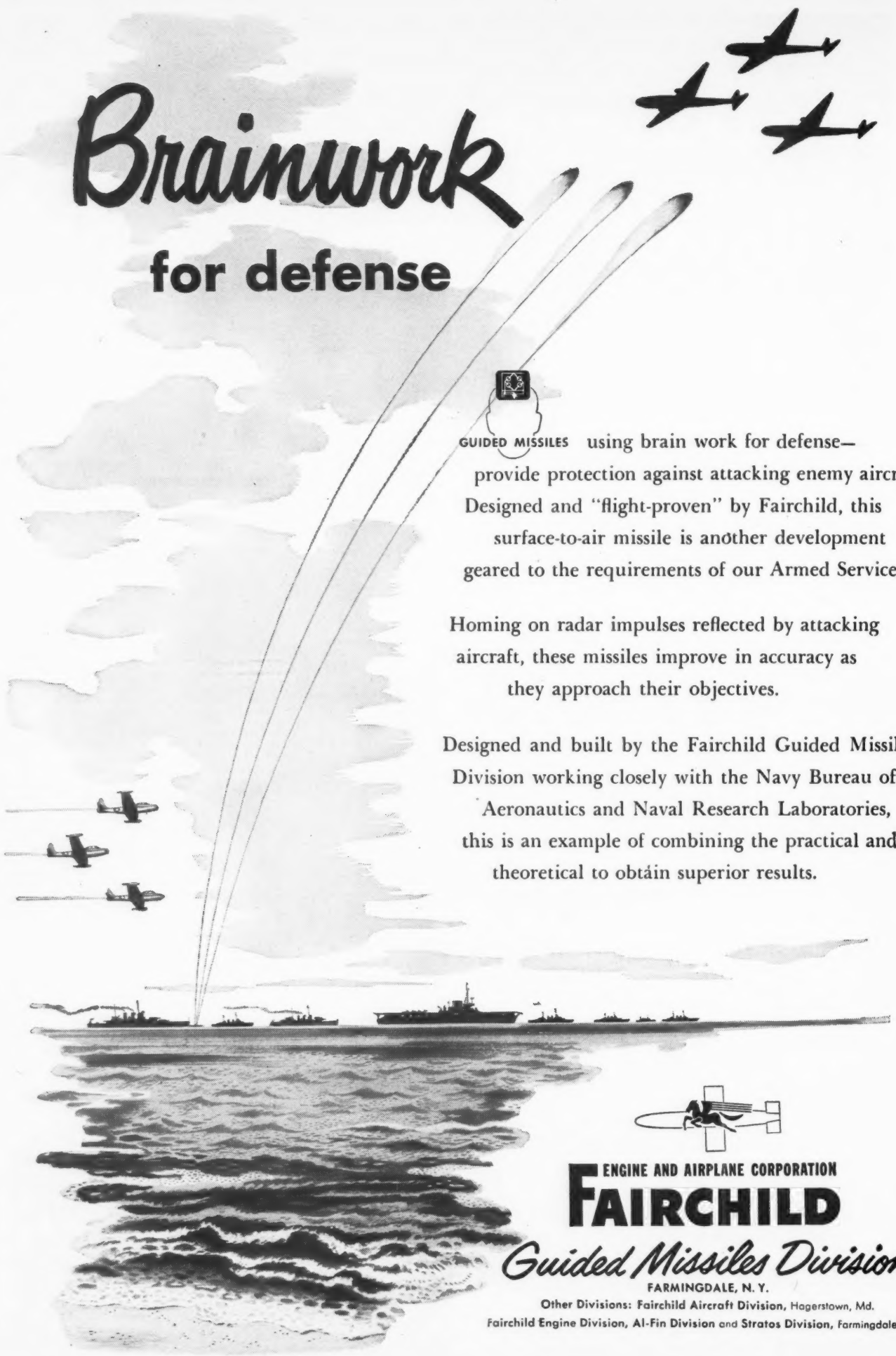
Built largely during a period of peacetime activity, these 10,000 engines plot a curve of increasing power and dependability. *Thrust* was stepped up more than 50 per cent per pound of weight; *service life* was extended more than 300 per cent and important improvements were made in *fuel economy*.

These vastly improved engines were in Japan ready for duty at the outbreak of the Korean hostilities. Today, two types of Allison jet engines in three types of U. S. jet fighters are in combat in Korea—spreading destruction among enemy air and ground forces with a degree of availability and reliability never before equaled.

Today, the 10,000 Allison jet engines have accumulated more than 800,000 hours in the air.

This means that Allison jet engines lead the world in experience—where it counts most—*in the air.*

Brainwork for defense



GUIDED MISSILES using brain work for defense—provide protection against attacking enemy aircraft. Designed and "flight-proven" by Fairchild, this surface-to-air missile is another development geared to the requirements of our Armed Services.

Homing on radar impulses reflected by attacking aircraft, these missiles improve in accuracy as they approach their objectives.

Designed and built by the Fairchild Guided Missiles Division working closely with the Navy Bureau of Aeronautics and Naval Research Laboratories, this is an example of combining the practical and theoretical to obtain superior results.

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AIR FORCE
JUNE, 1951

WE FLY *MIG Alley*

On May 20 Jim Jabara downed his fifth and sixth MIGs to become the first jet ace in history

By Captain James Jabara

I HAD begun to think I never was going to get that fifth MIG. I got my fourth on April 22 but the pickings had been pretty lean since that time. Then, about five o'clock in the afternoon of May 20, 14 of our F-86 Sabres from the 4th Fighter Interceptor Group were jumped by 50 Commie jets over Sinuiju, near the Yalu River.

I was in the second wave of 14. I tacked on to three MIGs at 35,000 feet, picked out the last one and bored straight in. My first two bursts ripped up his fuselage and left wing. At about 10,000 feet the pilot bailed out. It was a good thing he

did because the MIG disintegrated.

Then I climbed back to 20,000 feet to get back into the battle. I bounced six more MIGs. I closed in and got off two bursts into one of them, scoring heavily both times. He began to smoke.

Then when my second burst caught him square in the middle he burst into flames and fell into an uncontrolled spin. All I could see was a whirl of fire. I had to break off then because there was another MIG on my tail.

That was my bag for the day and it made me feel pretty good to know that I was the first jet ace in the history of aerial warfare.

Jim Jabara, an ace in World War II, made jet history on May 20, when he downed his fifth and sixth MIGs in a swirling dogfight high above the Yalu River. Here he is shown receiving congratulations from Lt. Col. Glen T. Eagleston. Jabara subsequently was relieved from combat duty and will become an instructor in jet tactics at an Air Force base somewhere in Japan.

We fight a private little war up in MIG Alley—maybe the first time in history that two fighter outfits have engaged in such a peculiar type of warfare. On our side of the Yalu River is the 4th Fighter Interceptor Wing. On the other side are the Red MIG-15s.

The capabilities and general characteristics of the two airplanes are just about the same. The battle tactics of the enemy are quite similar to our own. And he holds many advantages which I'll discuss later in some detail.

Here's where the puzzle comes in. We've knocked down or damaged several score of MIGs—exactly how many I honestly don't know. We've lost exactly one of our planes to enemy action and one from causes unknown. We're not magicians. We're just average fighter pilots with some previous combat time, sound tactical training, and a little patience to wait for the other guy to make a mistake. But the score is lopsided and I guess the enemy is wondering why.

I'm not going to tell him, except in general terms, for this test between the best jet planes in the world is only in its first phase. The end isn't in sight yet, and the score could change. But I don't believe it will.

We're in Korea for one main reason—I'm speaking of the F-86 Sabre jets. That's to shoot down as many MIGs as we can, to help retain air superiority for our side and protect our battling ground troops from enemy air attacks.

But there are a few ground rules in this private war of ours. We have to go up to their ball park—MIG Alley, in far northwestern Korea, near the Yalu River that splits North Korea and Manchuria—or the enemy won't play. That means a one-way trip of 250 miles or more, depending on where we're based. That's a lot of distance, measured in jet fuel. And any fan can tell you the home team has a big advantage.

While we're burning up a third of our fuel on the trip to MIG Alley, we have to save the same amount to get home again. That leaves us a third to stay in the area, hunt for the enemy, and fight him. And dogfights really eat up fuel, whether you're diving, climbing, or just maneauvering at high speed.

And we have all the normal worries "flame-outs" (engine failures), weather, and surprise by an enemy who knows when we're on our way through his early warning radar or GCI (Ground Controlled Intercept.)

He has all these advantages, plus the fact that he almost never fights more than 50 miles from his base. He is near friendly territory in case he gets shot down or bails out, and he can cruise at high speeds at all times, with no extra fuel tanks to slow him down.

But the biggest ground rule of all is his sanctuary in Manchuria, across the Yalu River, where he can run any time the fight gets too hot for comfort. The traffic light changes to red the minute he darts across the river, and it never changes to green no matter how long we wait.

Our Sabre is a shade faster, but not enough to make a big difference. Sometimes I've wished it had a little more speed. We can outdive the MIG at any altitude. The radius of turn is about the same, but we seem to execute it with more finesse.

The MIG has a slight superiority in rate of climb, and heavier fire power, with its three cannon. Fortunately they don't seem to be able to hit us with it. Note please that I say *heavy* fire power—not *rate* of fire.

In general characteristics, the planes are similar and both damn good. It's hard to tell one from the other in our 600-mph plus dogfights, and we have to use R/T (radio telephone) and code words to maintain air discipline.

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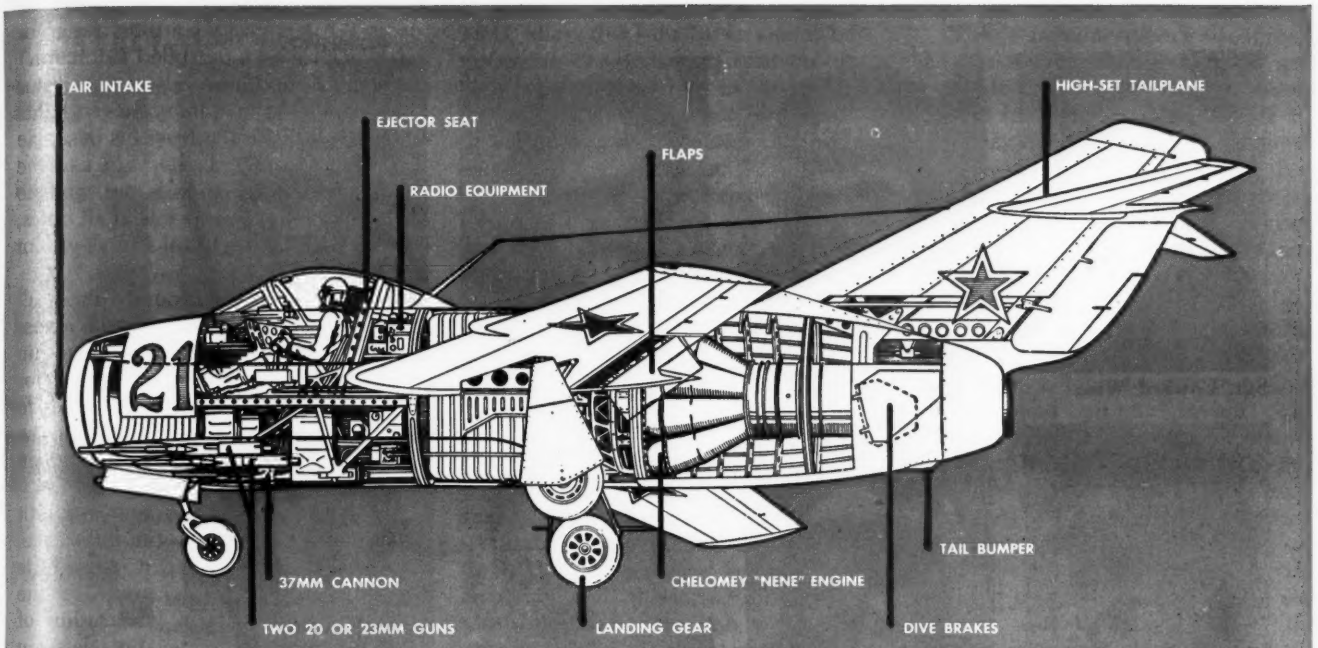

AN INSIDE LOOK AT A MIG ALLEY PROWLER

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It is a single-place mid-wing monoplane that employs almost every conceivable shortcut to save weight without sacrificing structural integrity. The general Russian structural philosophy calls for a light sparse structure under a heavy skin. It is not conducive to streamlining but is remarkably resistant to battle damage. Perhaps this is one of the answers to Capt. Jabara's question about the MIGs he hit which did not go down. The fuselage appears to be only about 56 inches deep, which makes it a tight fit. These close quarters appear to be characteristic. An example is the semi-exposed armament—a 37mm cannon on the right, two 20mm or 23mm cannon on the left.

The medley of armament requires a good deal of space for ammo storage. And the only place to put it is beneath the pilot's compartment. This means the pilot sits in a leg-out attitude, like some late World War II German types. This isn't too uncomfortable considering the short range of the aircraft.

Thus far the MIG-15 seems to use the bare engine, without afterburner, but a variant, with a longer fuselage and the M-018 axial type engine with afterburner, is reportedly in the mill.

Major weakness of the MIG seems to be in communications and sighting equipment. According to reports, the MIG's instrumentation is elementary and the radio equipment is a Russian version of our old command set filched from lend-lease aircraft. The sight is said to be a Russification of the German Revi optical sight, which was beginning to be inadequate by the end of World War II. This may account for poor Red gunnery under certain conditions.—*William S. Friedman.*

did because the MIG disintegrated.

Then I climbed back to 20,000 feet to get back into the battle. I bounced six more MIGs. I closed in and got off two bursts into one of them, scoring heavily both times. He began to smoke.

Then when my second burst caught him square in the middle he burst into flames and fell into an uncontrolled spin. All I could see was a whirl of fire. I had to break off then because there was another MIG on my tail.

That was my bag for the day and it made me feel pretty good to know that I was the first jet ace in the history of aerial warfare.

Jim Jabara, an ace in World War II, made jet history on May 20, when he downed his fifth and sixth MIGs in a swirling dogfight high above the Yalu River. Here he is shown receiving congratulations from Lt. Col. Glen T. Eagleston. Jabara subsequently was relieved from combat duty and will become an instructor in jet tactics at an Air Force base somewhere in Japan.

We fight a private little war up in MIG Alley—maybe the first time in history that two fighter outfits have engaged in such a peculiar type of warfare. On our side of the Yalu River is the 4th Fighter Interceptor Wing. On the other side are the Red MIG-15s.

The capabilities and general characteristics of the two airplanes are just about the same. The battle tactics of the enemy are quite similar to our own. And he holds many advantages which I'll discuss later in some detail.

Here's where the puzzle comes in. We've knocked down or damaged several score of MIGs—exactly how many I honestly don't know. We've lost exactly one of our planes to enemy action and one from causes unknown. We're not magicians. We're just average fighter pilots with some previous combat time, sound tactical training, and a little patience to wait for the other guy to make a mistake. But the score is lopsided and I guess the enemy is wondering why.

I'm not going to tell him, except in general terms, for this test between the best jet planes in the world is only in its first phase. The end isn't in sight yet, and the score could change. But I don't believe it will.

We're in Korea for one main reason—I'm speaking of the F-86 Sabre jets. That's to shoot down as many MIGs as we can, to help retain air superiority for our side and protect our battling ground troops from enemy air attacks.

But there are a few ground rules in this private war of ours. We have to go up to their ball park—MIG Alley, in far northwestern Korea, near the Yalu River that splits North Korea and Manchuria—or the enemy won't play. That means a one-way trip of 250 miles or more, depending on where we're based. That's a lot of distance, measured in jet fuel. And any fan can tell you the home team has a big advantage.

While we're burning up a third of our fuel on the trip to MIG Alley, we have to save the same amount to get home again. That leaves us a third to stay in the area, hunt for the enemy, and fight him. And dogfights really eat up fuel, whether you're diving, climbing, or just maneauvering at high speed.

And we have all the normal worries "flame-outs" (engine failures), weather, and surprise by an enemy who knows when we're on our way through his early warning radar or GCI (Ground Controlled Intercept.)

He has all these advantages, plus the fact that he almost never fights more than 50 miles from his base. He is near friendly territory in case he gets shot down or bails out, and he can cruise at high speeds at all times, with no extra fuel tanks to slow him down.

But the biggest ground rule of all is his sanctuary in Manchuria, across the Yalu River, where he can run any time the fight gets too hot for comfort. The traffic light changes to red the minute he darts across the river, and it never changes to green no matter how long we wait.

Our Sabre is a shade faster, but not enough to make a big difference. Sometimes I've wished it had a little more speed. We can outdive the MIG at any altitude. The radius of turn is about the same, but we seem to execute it with more finesse.

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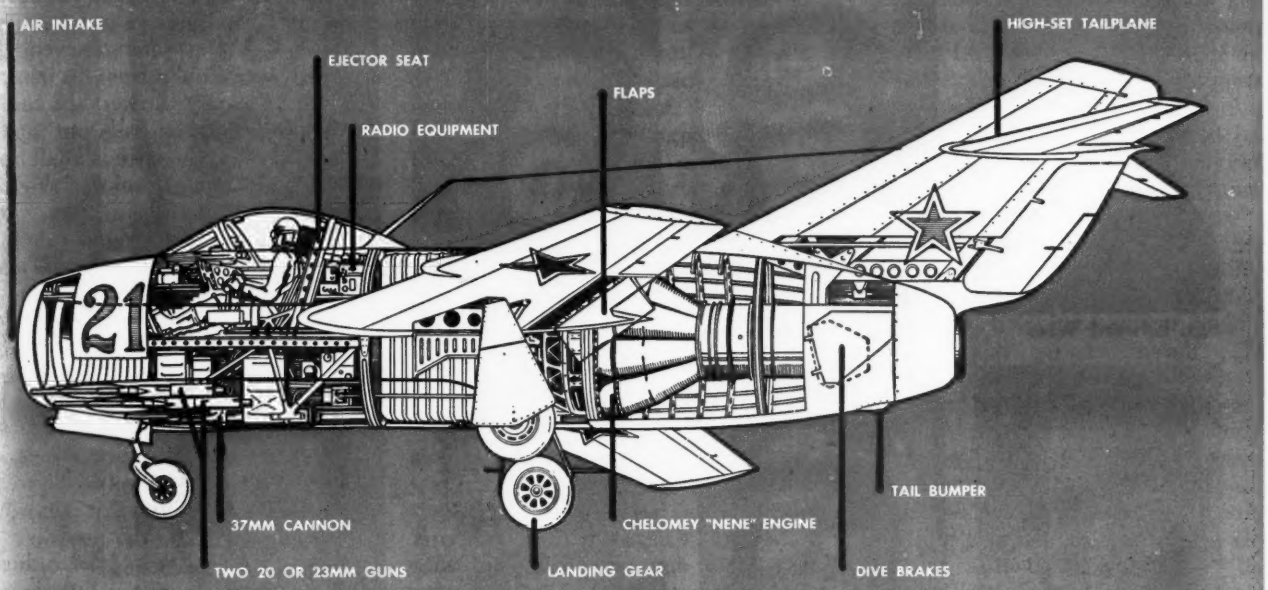

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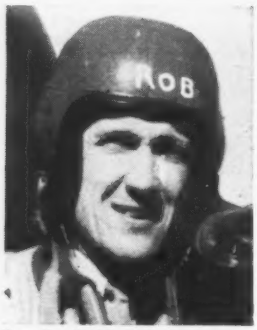
FIGHTER FACES

A cross section of the flyers who patrol MIG Alley and the men on the ground who keep them flying.

Sgt. Edward Wise



Lt. Jack Robinson

Lt. Col. Bruce Hinton

Capt. Howard Lane

Lt. Wm. Carring

Lt. Alvin Reeser

Capt. Everett Hundley

Lt. Col. Glen Eagleston

Lt. Stanley Houghtby

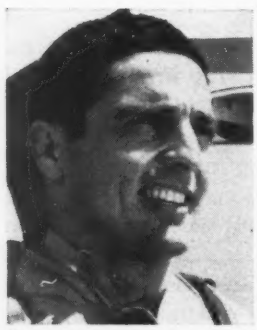
Lt. Roy McLain

Maj. Edward Fletcher

Capt. Charles Ja

M/Sgt. H. De Grendele

Lt. William Yancey



Lt. Simpson Evans

Lt. William Gallup

Maj. Benjamin F

Col. John C. Meyer

S/Sgt. John J. Bilek

Maj. Harrison Fischer

Lt. James Heckman

Capt. John Duff

MIG ALLEY CONTINUED

of single planes, unprotected and generally at our mercy. Maybe they had no planned tactics, for they were certainly easy pickings.

Now they generally stick closer together, and we have to bounce twos instead of singles—unless they get panicky and forget the direction of their Manchurian sanctuary. If desperate they loop, roll and split S.

When we're fighting on the deck, they frequently try to lure us across the North Korean flak areas hoping their ground gunners will pick us off like geese on the wing. That's an old Luftwaffe trick I learned to avoid while flying two hours in F-51s in Europe with the Eighth and Ninth Air Forces.

At times we see the MIGs pulling vapor trails. Then they duck below the contrail level and we can't see them. They hope we think they've left the area. Actually they're waiting to bounce us. We haven't fallen for that trick so far and I can tell them now we don't intend to.

The escort work we've done for FEAF Bomber Command B-29s has presented tough problems in tactics, as on April 12, when there were more than 225 planes, friendly and enemy, in the air at one time. The Superforts were leveling their demolition bombs on the important rail bridge at Sinuiju on the North Korean side to slow down Red resupply.

That day the MIGs showed that they are more aggressive against B-29 formations than against fighters. We were at a disadvantage because of slowing down for proper escort. By the time we drop our external tanks and get up speed, a MIG can be roaring through the bomber formation with his cannons blazing.

We counter this by keeping four plane elements together and take our chances on superior gunnery. The MIGs feint, hoping we'll follow and leave the bombers unprotected. We stick. And shoot. In that April 12 battle our F-86s, plus escorting F-84s and the B-29 gunners, got eight MIGs for sure, probably destroyed seven and damaged 18. We lost some Superforts but no fighters.

We had good air discipline in that fight and flew a good solid formation. The wingmen protected the element leaders who did the firing. The enemy made mistakes and we capitalized on them. We only had seconds to do this, so we moved fast. But the tactics when we're escorting B-29s aren't exactly typical.

Consider a fighter vs. fighter mission. We take off in four-plane formations and enter the target area, maybe 30 minutes later. We patrol MIG Alley, the Yalu River area. The enemy spots our calling card on his GCI and can bounce us first. He initiates the bounce about 70 percent of the time and our tactics naturally evolve around this fact. We try to spot the MIG and anticipate his actions. Fortunately our group commander, Col. John C. Meyer, and my squadron commander, Lt. Col. Glen T. Eagleston, are a couple of the shrewdest fighter pilot tacticians in the world.

They figure out our tactics for us and we stay alive by following orders.

We drop our extra fuel tanks as we sight the MIGs so we can gain speeds almost up to Mach one. Then we maneuver to get into firing position. After all a fighter is simply an airborne gun platform. The pilot must turn, dive and climb to get into position to fire. At the same time he has to watch for other planes, both his own and the enemy's.

The fight usually starts at 35,000 to 40,000 feet. It can wind up 50 feet above the ground. If the MIGs strike first, and we're not in firing position, we break hard to the left or the right, and down, so we can maneuver for a better position. A wingman covers each element leader.

The wingman doesn't fire unless he has specific instructions, or gets separated. It's a tough assignment and as far as I'm concerned half my victories should go to good wingmen like Lieutenants Gill Garrett, Roy McLain, Bill Yancey (who also has done some fine shooting himself while flying element leader), and Dick Becker.

When I'm concentrating on my sights, trying to handle the Sabre smoothly, and following the enemy's gyrations, I don't have time to look around and protect myself. The wingman acts as an extra set of eyes for me. He watches for MIGs and friendly planes, and gives me radio warnings or signals. To me he's worth his weight in .50 caliber ammo.

If we're outnumbered, or the fighting gets too rough, then we maneuver around and wait for the enemy to make a mistake. Thank God he makes more than his share of them.

Like the one he made in the big scrap on April 12. I was at 25,000 feet and he was 5,000 feet beneath me, heading for the B-29s. That advantage in altitude was my break and I used it to get speed. I caught him just as he was in range of the

(Continued on page 65)

MIG vs. SABRE

	MIG-15	F-86A
TYPE	Mid wing	Low wing
SPAN	32 feet 5 inches	37 feet
LENGTH	33 feet 9 inches	37 feet 6 inches
WING AREA	216 square feet	274 square feet
WING LOADING	50.23 pounds per sq. ft.	50.06 pounds per sq. ft.
ASPECT RATIO	4.90	5.02
TAPER RATIO	1.35	1.45
SWEEP-BACK OF LEADING EDGE	Approx. 35°	35°
ARMAMENT	1 x 37mm. 2 x 20—23mm.	6 x .50 caliber 16 x 5 inch Rocket
WEIGHT: NORMAL GROSS	10850 pounds	13715 pounds
POWER PLANT	Type: Centrifugal-flow "Rolls-Royce [illegible]" modified Static thrust, 5000 pounds Military power: 4800 pounds	Type: Axial-flow J-47, GE-3 Static thrust, 5200 pounds Military power: 4800 pounds
SPEED	At 25,000 feet: 615 mph	At 30,000 feet: 615 mph
RATE OF CLIMB	At sea level: 8800 feet per minute	At sea level: 8800 feet per minute
SERVICE CEILING	49,000 feet	50,000 feet
NORMAL RANGE	Probably 700-800 miles with wing tanks	800-900 miles with wing tanks

HERE'S

To 6500 brand new second lieutenan

AIR FORCE Magazine offers sage couns

from five distinguished Americans. Th

messages are directed primarily at new A

Force officers but the advice will benefit us

WESTERN UNION

JOSEPH L. EGAN, PRESIDENT

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Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

MAY 3 1951

PLEASE PRINT NAME AND ADDRESS.

To (BOOK OF ~ MSGS) MR. BERNARD BARUCH

Care of or Apt. No. 50; 11th St(.) Apt.

Street and No. NEW YORK NY

Place

NEXT MONTH SIXTY-FIVE HUNDRED GRADUATES OF SERVICE ACADEMIES AND ROTC COLLEGES ENTER UNITED STATES AIR FORCE AS SECOND LIEUTENANTS, MANY TO MAKE IT THEIR CAREER. BELIEVING THESE YOUNG MEN DESERVE BEST COUNSEL AVAILABLE, THE AIR FORCE ASSOCIATION SEEKS YOUR ADVICE IN THEIR BEHALF. WE ASK YOU TO ASSUME THAT THESE NEW OFFICERS HAVE COME TO YOU FOR ADVICE ON HOW BEST TO SERVE THEIR COUNTRY, THEIR CHOSEN BRANCH OF SERVICE, AND THEMSELVES. WHAT WOULD YOU TELL THEM ?

JAMES H. STRAUBEL

Sender's name and address (For reference only)

EDITOR AIR FORCE MAGAZINE

1424 K STREET NW WASHINGTON DC

Sender's telephone number

This is a facsimile of the telegram sent by AIR FORCE

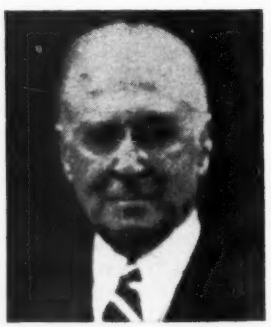
Dr. Theodore Von Karman

Top-ranking aeronautical engineer, Hungarian-born, he has directed the Guggenheim Aeronautics Lab at California Tech since 1931. Also consultant to United States Air Force.

This little contribution is inserted among comments from men who are much more qualified to give advice to young officers of the Air Force than is possible for a simple man of science, so I will confine myself to the viewpoint of a scientist.

During my travels to Europe after the last war, I happened to find an old English print in an antique shop showing two officers, each suspended from a Mongolfier Balloon, fighting one another with bare swords. The inscription on the print says, "We fight for control of the land, and for rule over the sea, so why not fight for control of the air." This print, which is about 170 years old, depicts the half-serious vision of an artist on the future struggle of nations for air superiority. The progress in military aviation, from that period to the present time, is tremendous. Nevertheless, it would be dangerous to put all the burden of further improvement and development in air warfare on the shoulders of men who are professional scientists or engineers. It is impossible to eliminate the human element in the application of science to National Defense and warfare.

It is your vocation and duty to acquire as much scientific knowledge as will enable you to understand fundamental principles of those branches of science which have military application. It will be your job to watch the progress made by science, and pick out those inventions and improvements which will give your Air Force a superiority in comparison to Air Forces of other nations. It will be your job to formulate military requirements, which are not based on unrealistic dreams, but which, on the other hand, take full advantage of technical and scientific progress. Some of you, I suppose, will go even further and fall in love with scientific research, which is a fascinating companion in the life of those men who feel the urge towards uncovering new scientific truths. They may end as "scientists in uniform" and be considered somewhat eccentric by the majority of their comrades. However, I trust that the wisdom of the man who commands now, and the men who will command in the future, will find the way to use all the talents you possess for the future of your Air Force and the welfare of the Nation.



Bernard M. Baruch

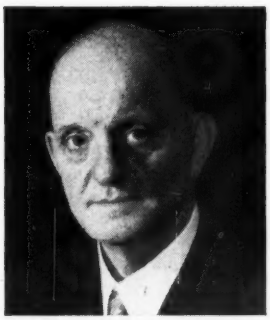
Advisor of presidents, successful financier, elder statesman of America in the fullest and truest sense of the words. U. S. representative on United Nations Atomic Energy Commission in 1944.

Pandora has opened her box. Dark days of sorrow, perhaps of anguish, threaten us. Ruthless aggression challenges our nation and its liberties and the spectre of another World War menaces us. Slowly, too slowly, we are preparing. It is comforting to know that young men such as you, who will receive your commissions in the US Air Force, next month are ready. But why are so many concerned so much with petty profits and petty comforts when you are offering your all?

The country relies upon you young men. As soldiers you are guardians of our security; as youth the trustees of our future. You have been trained not only as soldiers, but as specialists in a highly technical service—in flying, radio, navigation, engineering and meteorology. By application and study you will become expert in your field so that, should you be called upon to fight, your proficiency will give you the advantage over the enemy. And in some future day, if you return to civilian life, you will find many opportunities for gainful employment through the skills and knowledge you have acquired.

"Do your duty in all things. You cannot do more. You would not wish to do less."

MY ADVICE



Carl Vinson

Has been said to possess the keenest, most analytical military mind on Capitol Hill. A Georgia Democrat, he is Chairman of the Military Affairs Committee, House of Representatives. A Congressman since 1914.

Few periods in our national history have so beckoned to the strong, the fearless, the determined and venturesome young men as the period in which we live today. The times place a premium upon qualities of character and upon appreciation of values unique in our history. The young man beginning his career today in the Air Force is an enviable, honored person, for by donning his uniform he becomes identified with an arm of America which is standing up to a diabolical force in the world; he is entering upon a modern crusade against an evil thing—a force and a way of life abhorrent to every basic tradition of civilized society, a force which must be countered and thwarted and ultimately defeated, peacefully if possible, by force if necessary, or our institutions will surely perish.

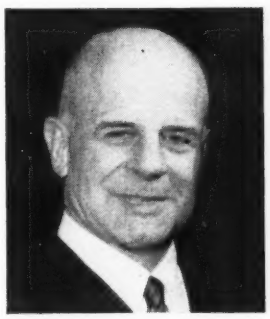
To counsel the young officer in the face of this challenge, who begins his service in the proud, vibrant and dynamic Air Force, is well nigh presumptuous. The challenge itself is the counsel; it calls for the best in character and in grim purpose, not unlike the challenge facing our earliest forebears in the terrible times of Jamestown and Plymouth during the travail of our Republic.

But a few beacons are clear. Those from the Military and Naval Academies, and no doubt a large number of the new graduates from the ROTC, have a splendid opportunity ahead in Air Force careers—an opportunity to men with the greatest perseverance, initiative and a deep sense of public service and duty. For them there lies ahead a great vista of accomplishment. Upon them, upon their farsightedness, their industry and professional expertness, rests to a major degree the security of the American people in this air age; for in a space of a few years these young men will be forming the military policies which will guide our nation. I hope and trust that each of these young men will turn themselves to their duties with the utmost zeal and professional pride. The nation is the beneficiary of the great abilities amassed through years of highly competitive military service.

There is another group of newly commissioned officers to whom I should like to address a remark. These are young men who anticipate active service in the Air Force of not to exceed two years, after which they plan to proceed with their civilian careers. To these young men I suggest that they attain as thorough a grasp of the operating forces of the United States Air Force as possible in their brief tour of duty, then in their later service in the Air Force Reserve or Air National Guard in their home communities, that they remain as proficient as their time permits in order thereby to continue their important participation in the national defense program. As far as eye can see today there will continue to be heavy national reliance on strong military force, and it behooves the youth of our nation, in or out of active service, as a matter of public duty and as a matter of sound personal planning, to keep their military capabilities at a maximum.

Fundamental to all of this, whether a career officer, or a civilian officer, we must all have full recognition of our goal as a nation in order to make the present effort meaningful. The young officer, as well as all of our society, must strive determinedly toward this goal, whether in or out of active service. The goal of our nation and of our Air Force is not warfare. We need Air Force power for peace. And we need these devoted, able and courageous young Americans in the Air Force today to achieve that peace through strength.

I salute these young men. It is a splendid time for service—for the greater the challenge, the greater the satisfaction and accomplishment in meeting it.



Jimmy Doolittle

Famous speed pilot, leader of renowned raid on Tokyo during World War II. Later led the 12th Air Force in North Africa, 8th Air Force in Europe and the Pacific. Winner Harmon International Aviation Award in 1950.

If I were advising a young man just entering the Air Force—or any other organization—I would first tell him that his primary desire should be to make the world just a little bit better. If he, during his life span, accomplishes this then his time on earth has been worth-while. Put another way, true happiness comes thru service. He should therefore objectively analyze his attributes and his desires in order to determine how, in his chosen profession, he can best serve his God and his fellow man. After deciding on his objective in life he should direct his destiny, through planning, study and training, to the achievement of that objective. He may have to wait for his opportunity. He may be able to make his opportunity. The important things are to be ready for it and alert to it when the opportunity comes—and to be sure that the opportunity is not made at the expense of others.

Carl A. Spaatz

Capped a distinguished air career by becoming first Chief of Staff of United States Air Force under unification. Retired, now writes a military column for a national magazine, is Chairman of Board, AFA.

You are entering a service upon which depends, in large measure, the future security of the US and the Free World.

The Air Force is a complicated and technical organization. Only those who apply themselves with great diligence and effort will have successful careers in it.

No longer will the pilot's career be the only one which leads to top Air Force assignments. In combat organizations, in research and development, air logistics and other phases of Air Force activities, there are excellent opportunities for the navigator, the bombardier, the engineer and other non-pilot officers. In the Air Force each of you can achieve a career commensurate with your ability and effort.

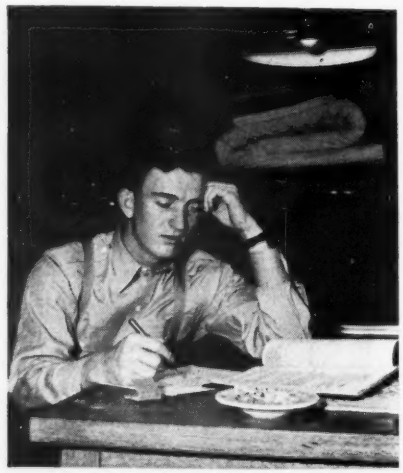
Aviation cadet—1951 jet version.

NEW DEAL FOR CADETS

Wartime training was fast and furious. We needed a lot of pilots—in a hurry. Today's pace has slowed. Both the training program and the cadets are more mature. Now it's officers first, pilots second.

By Loyd D. Andrew

A cadet explains the dead reckoning computer to his fellow classmates.



The pace is different but today's cadets still have to hit the books.

I STARTED cadet training when I was 19, finished it when I was 20 and had completed fighting when I was 23." Captain Jack Laurie, of Vance Air Force Base, Okla., speaking.

That's because ten years ago, under the pressure of war, the Air Force needed a lot of pilots in a hurry. It recruited men directly from high school and hustled them through their training.

Today, cadets must have finished two years of college, must be older than 20½. Most join because of job security, the desire to fly, or the career possibilities offered by the Air Force. Today's cadet training focuses its attention on making officers first—then pilots.

This has tended to raise the average age and educational level of today's cadet classes. As a result the whole program shows greater maturity.

Major A. W. Bebaur, military training director at Vance, puts it this way, "The built-in pressures that marked the wartime cadet program are not as great today in some phases as they were during the last war. From 1941 to the end of the war the heat was on cadets and instructors all the time because the Air Force had to find out quickly whether or not a man could take it."

This pressure let-up probably would be one of the first things a wartime trained pilot would notice on a visit to today's training bases.

It wouldn't all be new. There are still the cadet customs, the honor system, the bits of prose that a cadet must be ready to recite from memory at an upperclassman's command. But such hazing is mild, as wartime cadets will agree, and the class system of today is less rigid. Cadets drill each day during pre-flight—now a four weeks course—but after that drill is cut to only a couple of hours a week.

Today's cadets escape the famed tongue-lashings dealt out by many World War II instructors. Some old-timers still wonder whether this makes for a better pilot, but most officers I have interviewed seem to feel it develops a more confident pilot. A cadet can even ask for, and get, a new instructor if he can't get along with the one assigned.

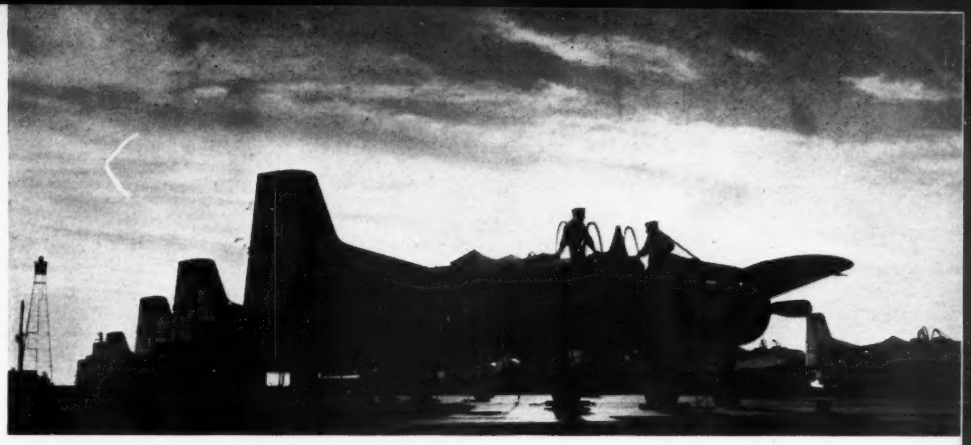
A good deal of the change in the cadet program is the inevitable product of today's planes. "When I was getting my basic in the midget-powered PT-22s," says one World War II product, "we didn't even have an air speed indicator in the cockpit. We judged the speed by the sound of the wind through the struts. Now a cadet has 20 instruments in the cockpit to keep an eye on."

Today's training planes pack more power. A cadet now solos after 20 to 27 hours dual instruction in the T-6—the old AT-6 in which his war-time brother finished advanced training.

Major Fredric E. Mau, director of flying at Vance AFB points out, "When I was training in '42 and '43, I seldom had the opportunity to fly a full instrument panel." But now a student flies 15 to 20 hours on instruments in the T-6, 20 hours in the T-28, and 25 hours in the B-52 before he is graduated.

He starts to fly instruments after building up 40 hours of solo time. Before he gets out of basic, after 130 hours in the air and six months training, he is able to maintain the T-6 in most required flight attitudes while flying on instruments.

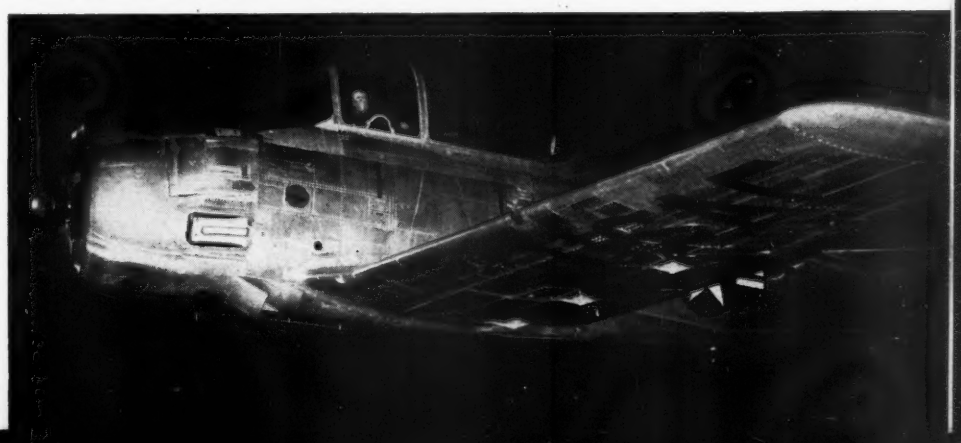
Instrument training is given at Perrin, Goodfellow, and Connelly



Cadets are on the flight line as the early morning sun breaks through the overcast. Planes are T-28s that handle much like jets.

Students selected for advanced multi-engine program fly these training versions of the North American B-25, at Vance, Okla., or Reese, Texas, AFBs.

Here's something that hasn't changed. Cadets still gather to debate about who should have done what and when. (Below) You can almost count the rivets on this T-28 caught in a startling night aerial photograph.



AFB, Texas, and at four civilian contract schools – Columbus and Greenville, Miss.; Spence, Ga., and Bartow, Fla. Cadets who pass instrument instruction are assigned to one of four advanced schools.

Those selected for multi-engine training go to Vance, or to Reese AFB, Lubbock, Tex. There they get 70 hours transition time in the T-28, a North American trainer with flight characteristics comparable to jet fighter aircraft. After the T-28, they get 65 hours in B-25s.

Cadets chosen for single-engine fighter aircraft may go to Craig AFB, Selma, Ala., where they spend 70 hours in T-6s, then 65 in TF-51 Mustangs. Or they go directly to Williams AFB, Chandler, Arizona. At Williams they begin in a non-flying T-33 that simulates actual flight. Then comes 70 hours in the T-28 and dual instruction in the tandem cockpit T-33, training version of the F-80. They solo in F-80s.

The whole cycle takes 13 months compared with the nine months of wartime training. But student pilots get a more thorough grounding in navigation, more hours in the air and more military training.

"We emphasize military training," says Col. Harold E. Kofahl, C. O. at Vance, "because Air Force officers must now be fitted for two jobs—administrative and flying. During the war we had to give priority to the combat flyer."

At both basic and advanced bases military instruction has been stepped up. Also, in advanced schools, after 18 weeks of academic work, cadets get on-the-job training for the positions they will fill after graduation.

The new deal for cadets is also found in the ground school. "It's much more thorough now than during the war," explains Major William Magee, director of academic training at Vance. "A pilot needs more engineering now. Cadets are being trained for all-weather flying. Accurate navigation is a must."

Instead of listening to the cut-and-dried lectures of wartime days, classroom discussions are encouraged. Courses are also scheduled differently. During the war each subject was taught separately. Now only two academic flying courses are given in advanced training—32 hours of Pilot Operating Instructions (basic engineering about the plane) and 60 hours of Flight Operations. Approximately the same amount of time, similarly organized, is spent in basic schools. Flight Operations covers all the courses that

New worlds to conquer. A multi-engine graduate looks over a B-47.

The old and the new. The T-6 in foreground was a wartime advanced trainer, is now basic. Fighter students now solo in F-80.

formerly were taught on an individual basis.

This integration of academic work is simple recognition that a student uses all the elements taught in ground school—weather, navigation and cruise control—when he flies.

And the work is phased to tie directly into the student's work on the line. Immediately before a cross-country, the cadet studies the exact flight plan he will use when he flies the mission.

Pilots out of the jet fighter and multi-engine schools must be well-grounded for wartime navigation. Several Vance graduates have already been assigned to B-47 training at Wichita, Kans. Other graduates can expect to pilot B-29s, B-50s or B-36s. The cadets learn GCI (ground controlled interception), and are trained in radio instrument directional methods, using transmitters and receivers that make the old command radios passe.

Even the reasons for washouts are different. During the war, many cadets had trouble because they couldn't or wouldn't learn to fly by the seat of their pants. Now they have trouble because they can't, or won't, trust their instruments and try to fly the plane by feel. Washouts of themselves, however, are not necessarily indicative of the stiffness of the training program. As a matter of fact, the wartime washout rate was determined largely by the need for pilots at any given time. Often quality had to be sacrificed for quantity. But today's high-speed, and expensive, airplanes require an exceptionally high degree of skill in the pilot. So it is fair to assume that the washout rate today is probably higher than that of the frenzied wartime years.

There is more stress today on long instrument flights. Major James G. Brooks, at the Flying Training Air Force headquarters in Waco, Tex., explains, "As late as 1946, multi-engine navigational training was confined to an area within 100 miles of the home base. Now this radius has been expanded to the cruising range of the B-25, namely continent-wide navigation." A cadet now prepares his own flight plan, files it, and does the necessary paper work for a navigational mission. At strange bases, he continues to act as first pilot, with all the responsibilities *and* privileges of an officer. He arranges for minor maintenance of his plane, refueling and security of his aircraft. Then he can visit the club.

In brief, the Air Force realizes that before a man gets gold bars and wings, he should be able to play the part.

TRAINING PLANES ARE FASTER

(Wartime data is printed in black)

TYPE OF TRAINING	HOURS	PLANE	SPEED (CRUISING)
Primary	**65**	**Stearman PT-17**	**90 mph**
Basic	130	North American T-6	160 mph
Basic	**70**	**Vultee BT-13**	**135 mph**
Advanced	65	North American T-28	166 mph
Advanced	**80**	**North American AT-6**	**145 mph**
Advanced (Multi-engine)	65	North American TB-25	200 mph
Advanced (Single-engine)	65	Lockheed T-33	500 mph plus

GEN. MIKE LIKES AI

An Exclusive AIR FORCE *Interview With a Man Who Knows*

Things looked pretty gloomy when Lt. Col. John H. "Mike" Michaelis took command of the 27th "Wolfhound" Infantry Regiment in the shrinking Pusan Beachhead last summer. But under Michaelis's inspiring leadership the 27th did some of the finest fighting of this or any other war. It became known as the "Fire Brigade," and Michaelis the "Fire Chief". He jumped to colonel, became Assistant CO of the 25th Division, and finally got his star at the age of 38. As a paratrooper in World War II Gen. Michaelis jumped in Normandy and Holland with the 101st Airborne Division, was twice wounded. He fought at Bastogne, later served as aide to Gen. Eisenhower when the latter was Army Chief of Staff. Now in the States on leave, he will report to Gen. Eisenhower at SHAPE in Paris.—Editor's Note.

Michaelis, then a colonel, on the job in Korea.

BRIG. GEN. JOHN H. MICHAELIS

By John F. Loosbrock

MANAGING EDITOR, AIR FORCE

Q. What does airpower or the lack of it mean to you as a ground soldier?

A. There's no question about it. We have to have it for the superior firepower and mobility of the American Army to be utilized properly.

Q. Can you cite specific instances from your experiences in Korea where, you might say, airpower saved the day?

A. There were many. I recall especially an incident in the "Bowling Alley" near Taegu. We had been enflanked by a Commie regiment. It was a pretty tight spot. Our forward air controller picked up a flight of seven B-26s which had been unable to hit its primary target. He asked for a strike. They were low on gas and screamed bloody murder but they made one pass for us and dropped 4,400 pounds of bombs within 400 yards of my CP.

Q. Just how close was your close air support?

A. How close can you get? We didn't call it close unless the empty .50 caliber shells from our strafing planes were bouncing off our helmets. That's a fact. Our forward air controller would adjust a strike just like an observer adjusts artillery. They'd make a pass, he'd call it, over or short, and they'd try it again. Sometimes when the Commies were too close for comfort we'd mark our positions with panels, withdraw to a safe distance, and call on the Air to beat them up. We even called for air strikes within our own lines. Back in July the Air knocked out three enemy tanks that had penetrated our perimeter.

Q. Were there occasions when airpower let you down? Why?

A. Weather is the main problem. The doughfoots moan and groan when the weather socks in. Then, and at night, are the only times the Chinese move. And the night problem has been eased by flare-dropping C-47s.

Q. How do you feel about the three priorities the Air Force conceives as essential to fulfillment of its tactical mission—air superiority, interdiction and close support? Would you rearrange them?

A. They make sense to me. Certainly if the enemy had his Air prowling the area I'd want to be darned sure that someone was after them. We can take care of what they toss against us on the ground as long as there are no enemy planes on our backs.

Q. You've already said you were happy with the close sup-

port phase. There is a good measure of controversy existing about the value of interdiction in terms of our over-all objective in Korea and the immediate tide of battle. Do you feel that the Air Force over-emphasizes the value of interdiction?

A. Of course not. It makes a lot of sense to knock out a truck or locomotive 50 miles behind the lines instead of waiting until it's delivered its load.

Q. Specifically, when you and your men broke out of the Pusan beachhead and began moving forward did you find evidence of what interdiction had accomplished?

A. Plenty of it. Trucks, ammunition and fuel dumps, bridges, railroads. And a lot of dead Commies.

Q. Looking back, do you feel that you should have had more close support or are you satisfied with the value the Air Force places on interdiction?

A. We couldn't have had much more close support. In fact, we got spoiled. There was a tendency on the part of ground commanders to ask for air support when artillery and mortars could have done the job. That was the only thing I disliked about calling for a strike. Our artillery and mortars had to cease firing. But we had all the air support we could handle. I've had as many as 27 flights stacked up over my area, waiting for their turn. We'd have to ask the piston jobs to wait awhile so the jets could drop their loads.

Q. Speaking of jets, in your opinion, does the jet perform satisfactorily in a ground support role? Some critics suggest that perhaps we should stick to the piston engine for this type of flying.

A. The jet worked fine. Its lack of range was a handicap when our Air had to operate from Japan. And it's a little harder to identify a target from a speeding jet. But that is ironed out with experience. The jets seemed to take battle damage a little better than the piston-driven planes. The piston plane is better for strafing since it can put more bullets into a given area.

Q. What is airpower's best weapon, as far as the man on the ground is concerned—rockets, napalm, bombs?

A. Napalm, unquestionably. But it's still not accurate enough. You get about one hit out of eight tries. Frag bombs are good, too. Rockets are good against tanks but napalm is better.

Q. What targets did you consider as most remunerative for airpower?

A. We liked to see the planes work over massed Communist infantry, massed in an assembly area for an attack.

Q. To get back for a moment to the question of the value of first gaining air superiority, what would have happened to our troops on the ground if the enemy had put forth an air effort even equal to our own?

A. We probably wouldn't be in Korea. If we were we'd be taking a lot of punishment.

Q. It has been suggested that the Air Force should continue to wage war for control of the air and to carry out the interdiction mission, but that the Army should have its own organic planes to handle close support. What is your opinion, based on your Korean experience?

A. Personally, it would be nice. I would have liked to have had the 27th Fighter Group, which was doing such a good job for us, permanently at my disposal for air support. But organic Air is a luxury the US Army can't afford. You lose too much in flexibility for what you stand to gain. You might be having a rough time, too much for your organic planes to handle, while the next division over might be having it comparatively easy. No, like a lot of other supporting weapons, it's better to have the planes back in a pool where you can call on them as needed.

Michaelis in the States for a deserved leave.

Q. Would you care to comment on the relative merits of the Army-Air Force close support tieup as compared with that practiced by the Marines?

A. The Marines had one edge on us initially. Their pilots had ground training and knew what a mortar position, for example, looked like from the air. But that's largely a question of training and experience. After a couple of tours of duty as a forward air controller, eating the same dirt as the infantryman and sleeping in the same hole, the Air Force pilot gets just as wise.

Q. We find relatively little interest in the air support that might be available for allied troops in Western Europe, should these troops be called upon to fight. What interest there is seems to be reflected in a desire to match our ground strength with adequate air strength—that is, one air group per ground division, or some such ratio. We have long been concerned that this could be a fair way to disaster, that air superiority must be our first consideration, and that to achieve it we must match or outmatch the enemy in the air over Western Europe. Would you care to comment?

A. I don't feel qualified to comment on the situation in Western Europe. After all, I just returned from Korea. I am confident of this, however, General Eisenhower is probably the most air-minded ground general we have. And with him and General Norstad on the job in Europe, I can't conceive of a defense plan that would not include adequate air cover. Come war over there, one thing is sure, the troops in Western Europe would have to get along without much close support initially, since our Air Force would be busy fighting the enemy in the air.

ORLY FIELD, Paris, France. The first GCA radar landing system has just been installed by Gilfillan at the largest civil airport in France. The entire design, production and installation were accomplished by Gilfillan personnel...

Gilfillan sets are the *only* civil airport GCA equipment installed in Europe or the United States.

"C'est Magnifique!"

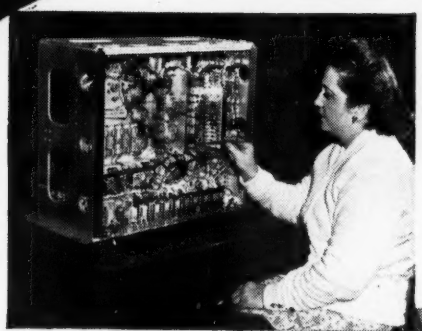
-on dit a l'aeroport d'Orly, Paris

"It's Magnificent!"

-they say in the U.S.A

.0002" TOLERANCE OVER A 14-FOOT SPAN! Machining this 14-foot extrusion into a precision antenna was one of the tougher jobs Gilfillan solved. To do it, Gilfillan developed a special plaster vise. The extrusion, set in this vise, settled to its natural position while the plaster hardened. Then it was machined to .0002" tolerance with no chance of springing out of shape once it left the vise.

UNIQUE INSPECTION SYSTEM FOR QUALITY CONTROL. One reason for Gilfillan's acknowledged success in making "precision-plus" electronic equipment is its unusual inspection system setup. *A staff of 140 highly skilled inspectors reports directly to the head of the company.*

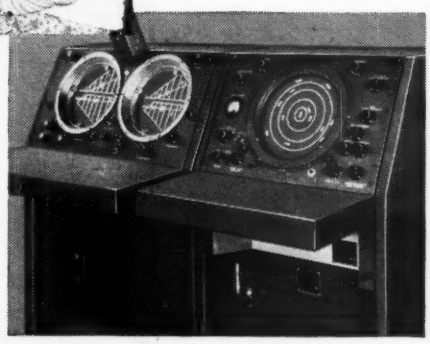


GCA *Gilfillan*

LOS ANGELES

FIRST AND FINAL WORD IN GCA RADAR

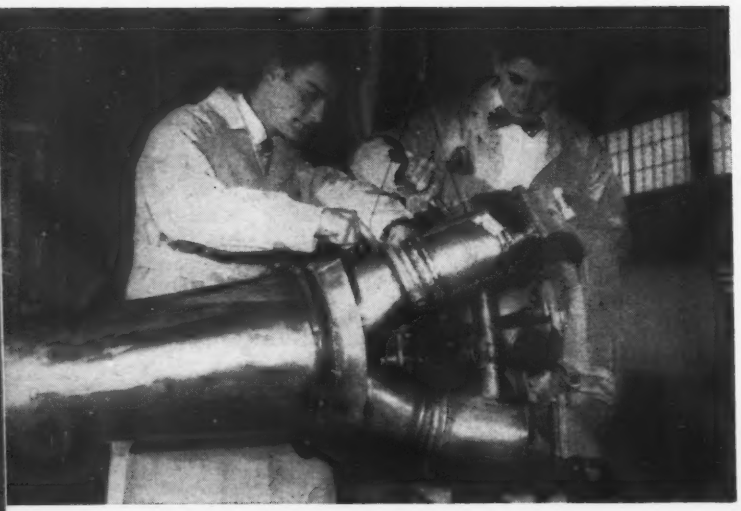
13 MILES OF CIRCUITRY SIMPLIFIED! Each production GCA has 13 miles of circuitry. Making it simple to assemble and simple to maintain was a challenge of major dimensions. Standard color coding of wiring wouldn't work. Therefore, Gilfillan devised a system of identifying each wire by *imprinting indelible numbers at one-inch intervals!*



TOWER CONSOLE. Gilfillan's new remoting equipment "pipes" GCA into the tower from the field antenna units. Now GCA is operated by *one man* of the regular tower personnel from a *compact, two-scope tower console, instead of the former bulky five-man, multi-scope equipment.*

Packet Gets Wider Footprint

New tandem-type landing gear, developed and tested by the Fairchild Aircraft Division, will provide C-119 Packets with a wider landing "footprint." Purpose of the gear, as with any multiple wheel arrangement, is weight dispersion. In Korean operations of the aircraft, overloaded C-119s have been sinking through pierced-steel runways, cutting runway life, in some instances, from 15 operational days to two. In place of the axle bearing two side-by-side wheels, a truck has been mounted on a pivotal fitting on the main oleo strut. This carries four wheels, slightly smaller than those on present versions of the C-119. A cable and air cylinder arrangement allows the rear wheels to strike the runway first. Inset shows test gear instrumented with strain gauges for test flights.



New Jet Has Four Burners

This is the first four-burner aircraft jet engine ever built. An experimental model, the design features four combustion chambers installed parallel to the engine axis, permitting a powerful, compact lightweight structure. It weighs 168 pounds and develops a total of 320 pounds (calculated) static thrust. It is said to be capable of powering a plane the size of a Navion at speeds of from 200 to 300 miles per hour. The design is similar to that of the J-33 and was built at low cost by modifying a supercharger from a P-38 aircraft. An engine speed control governor functions as a control to stabilize the turbo-jet engine rpm at any desired setting. The little engine was built by engineering students of Northrop Aeronautical Institute, Hawthorne, Calif., and is now being tested by the Institute.

Recorder Writes Rapidly

This six-pen graphic flight recorder, called "Wigglin' Willie", was developed by Boeing to give its engineers flight test data immediately. One pen marks off time intervals, while others record such functions as air speed, angle of pitch, normal acceleration, etc. So a usable record of data is available as soon as the plane has landed after a test flight.

Conveyor Moves Freight Quickly

This automatic conveyor, developed at Kelly AFB, moves cargoes directly between a parked plane and the freight terminal, cutting hours off the time required to load and unload. The conveyor comes in two sections. One, built into the terminal floor, is 58 feet long. A 56-foot section runs from the terminal to the ramp, where an adjustable boom connects it to the plane. It will fit any AF transport.

Wind Tunnel Models Get New Look

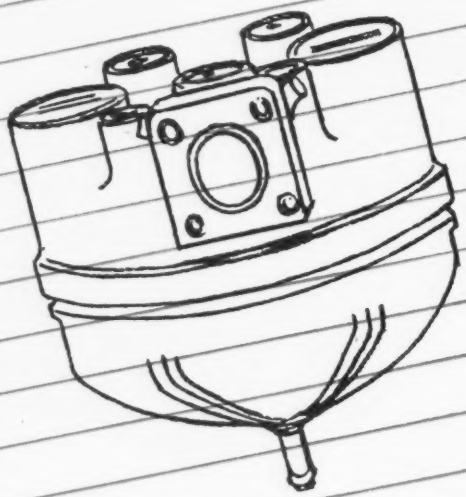
The thin flexible wing and tail structure of the B-47 called for a whole new approach to the problem of wind tunnel model construction. Old-style models were made of steel or high-strength alloys, giving structural answers for static conditions only. But Boeing's model makers shifted to aluminum alloys, balsawood, and other light materials, getting the same flexibility as in a full-scale airplane.

ighter Fuel Cells

ctured above are two self-sealing, leading edge ing fuel cells for jet fighter aircraft. Symbolic our gradual transition from a peacetime to a rtime mobilization footing, the cells are once ore being turned out in quantity by the Firestone re & Rubber Co.'s fuel cell division in Los ngeles. Firestone was a major producer of bullet-aling gasoline and oil tanks during World War II. vital component of modern military aircraft, e rubber fabric cells contain a rubber sealant at immediately closes a bullet hole to prevent akage and to minimize fire hazards. The gal ith the trouble light is an inspector.

Fuel Filters by Hydro-Aire

on America's first Production Jet



now on over 90% of all Jet Aircraft

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TECH TALK

By Helena Redmond

A single military standard for photographic lenses has been adopted by the Armed Services. The new standard covers types of lenses, focal lengths and distances, apertures, construction features, field of view, optical characteristics, mechanical details, marking, threads, and methods of test and measurement. The Air Force has been named custodian of the standard.

Studies conducted by the Aero-Medical Lab at Wright-Patterson AFB indicate that the noise of aircraft—particularly jets—no longer disturbs only the mechanics who work on the planes. It drowns out conferences, disturbs normal office routine, and causes serious ear damage to persons whose business brings them occasionally into the damaging noise range. So the AF is working on an ear plug which will be comfortable, keep foreign matter out of the ear canal, and still stop noise.

Cockpit temperature has a lot to do with the ability of a crew member to withstand G-forces. Experiments on the centrifuge at the Aero-Medical Lab are testing the effect of time and temperature upon tolerance to positive acceleration. Results indicate that a man blacks out quicker when he's hot and sweating than when he's comfortably cool or even shivering.

DuPont research men have discovered a sand-derived material called GS-199S silica to thicken oil in making grease. It comes in the form of balls less than a millionth of an inch in diameter—so tiny that when magnified twenty-five thousand times they still appear scarcely larger than pin points. Greases thickened with the silica retain their consistency as the temperature rises, and resist water and mechanical breakdown as well.

An inflated rubber radar dome, capable of withstanding 120-mile-an-hour winds as well as accumulations of ice and snow, has been completed by the B. F. Goodrich Company for the Air Force. The pumpkin-like structure stands 37 feet high and will be used to house aircraft warning equipment being installed on the Arctic rim of the North American continent. The "rubber house" is 54 feet in diameter, contains 60,000 cubic feet of space and requires over 1200 pounds of American rubber and 90 gallons of rubber cement. Before delivery to the Air Force, each radar dome is inflated to abnormal pressure for several days. The special rubber is extremely tough.

Hands that dwarf mountains

When the airman wings far out over the limitless seas, or in the dead of night above cloudbanks that hide the earth . . . what confidence he must place in the accuracy and dependability of his aircraft instruments and controls! Such confidence Kollsman has earned the world over through years of precision workmanship and engineering skill. Yes—when mountain tops must be dwarfed and sea lanes narrowed —the hands of skilled Kollsman craftsmen have unfailingly furnished the tools.

***for precision and dependability look to* KOLLSMAN**

INSTRUMENT CORPORATION

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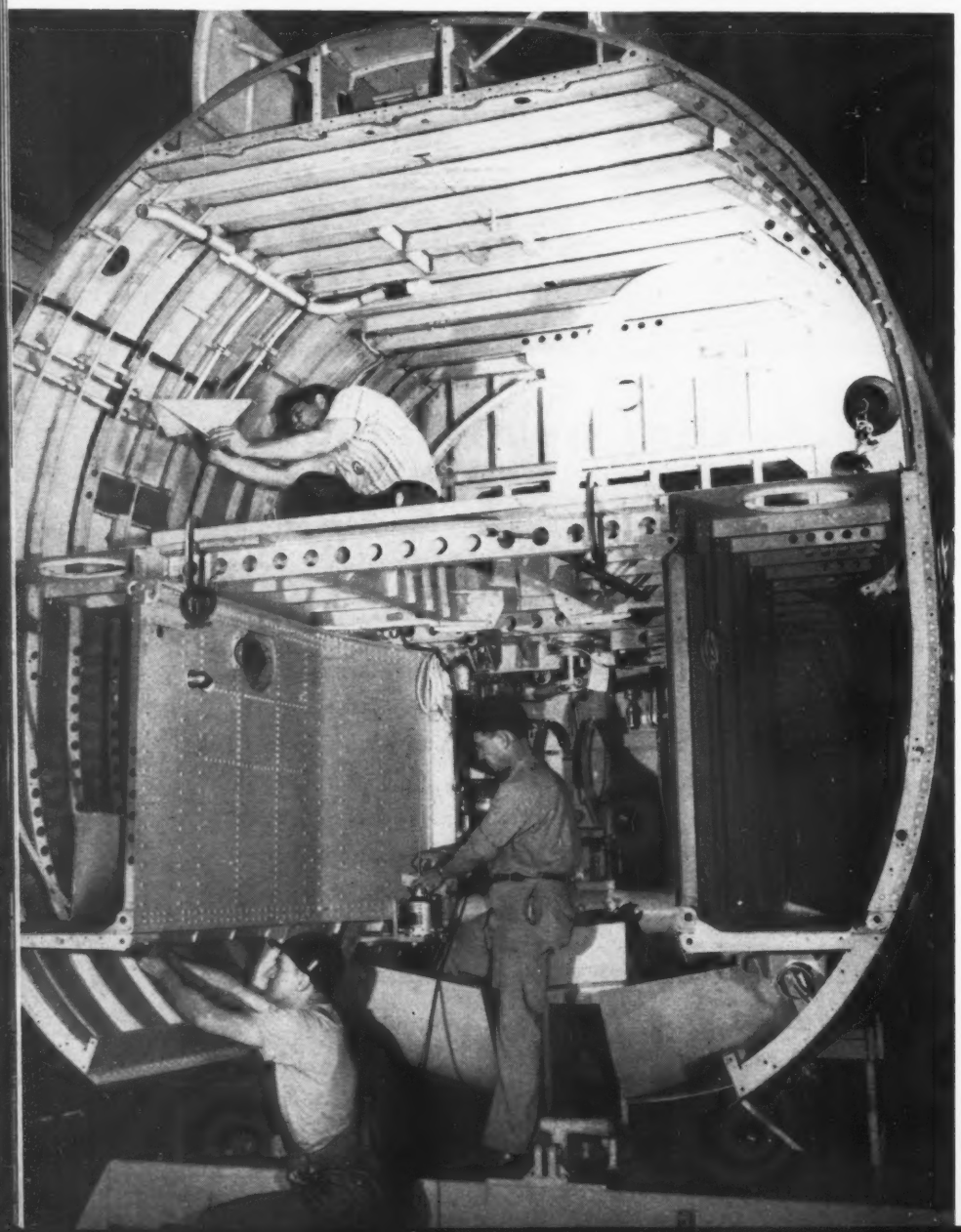
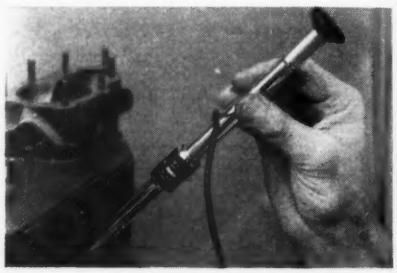
Stratojet Production Gets in Gear

Some indication of the size of the sleek, swept-wing B-47 Stratojet can be gained from this photograph that shows for the first time inner details of a fuselage section under construction at Boeing Airplane Company's Wichita Division. The six-jet USAF medium bomber weighs 185,000 lbs., carries a three-man crew. It's powered by six GE J-47 engines, developing 5200 lb. thrust each. Maximum speed is more than 600 mph., service ceiling more than 40,000 feet, range more than 4,000 miles. It can carry better than 20,000 lb. of bombs. The B-47 holds the transcontinental speed record of 2289 miles in 3 hours, 46 minutes—an average speed of 607.8 mph. Under a massive production program recently announced by the AF, Stratojets will be built by Lockheed's Georgia Division and Douglas's Tulsa Division. These will complement the substantial production already underway at Wichita. Accelerated flight testing of the B-47 has started at Wichita by Col. Paul W. Tebbetts, (World War II pilot of the Enola Gay, B-29 atom bomb vehicle). This project has been named WIBAC, for Wichita Boeing Airplane Company. Present plans call for training B-47 crews at the Wichita airport, recently taken over by USAF. Thus, training planes will be close to the factory so that spares, modifications and overhauls can be taken care of as needed without wasting valuable time.



Tiny Amplifier

The trend toward miniaturization of airborne radio equipment continues. The young lady above holds a new Bendix "series" amplifier to replace the conventional type shown below it.

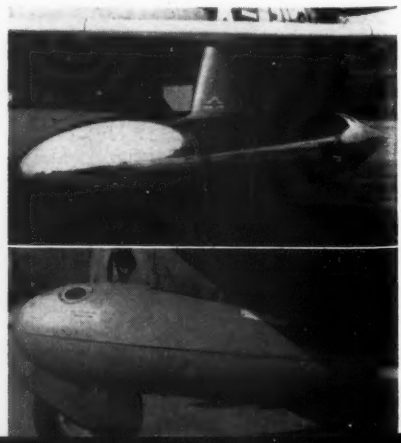


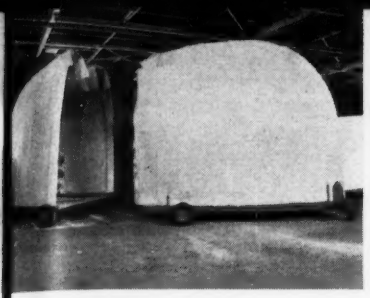
An Inside Job

With the new Testa Borescope (above) you can look inside hollow casting, cylinders, or gun barrels. Magnification reveals cracks and other imperfections otherwise invisible to the human eye.

Futuristic Tank

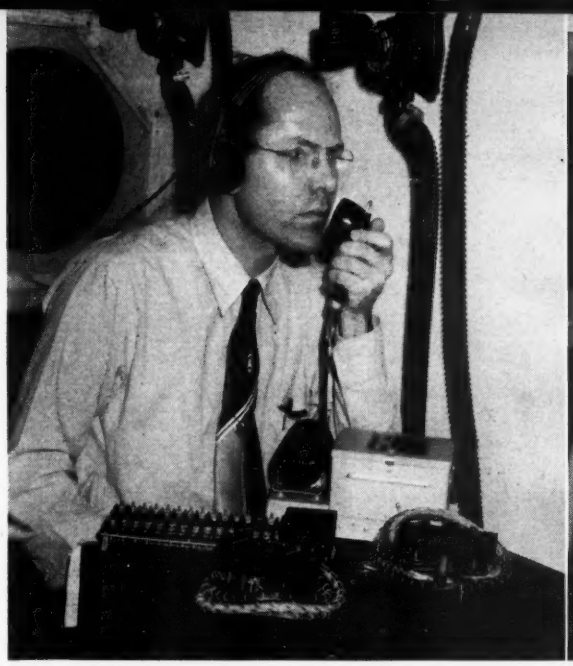
Engineers at the Air Materiel Command see the streamlined beauty below as the auxiliary fuel tank of the future. In three sections, the tank is assembled with a tie-rod from nose to tail. A synthetic rubber gasket seals the joints. To increase capacity, merely insert a longer center section. The bulbous job below is the wartime model.

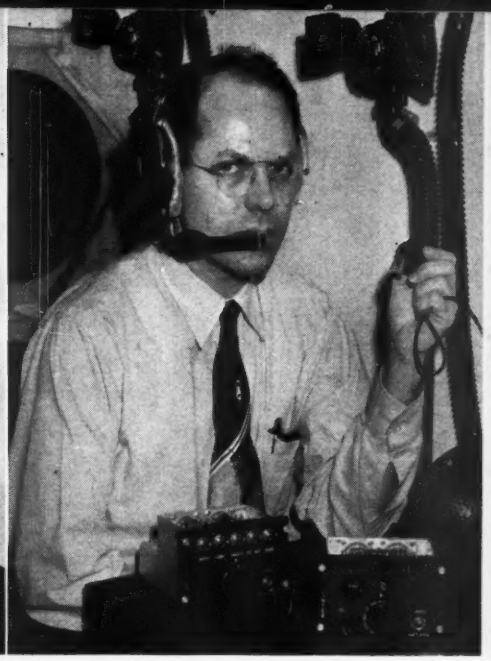




et Pod Shelter

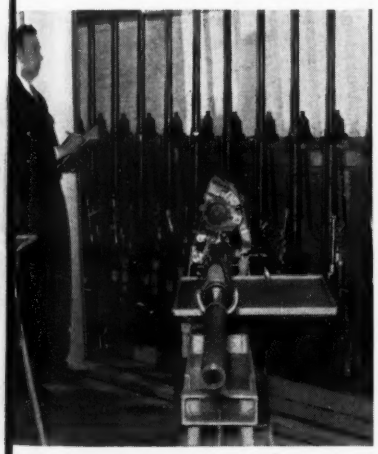
simplify second echelon maintenance on the B-36 and B-47, Goodyear veloped this light, inflatable shelter the Air Materiel Command. Built in o sections and mounted on mated llies for maneuverability, the shelter s around a jet pedestal and encloses e engine in a weathertight structure. ly 10 pounds of air pressure inflates e rubber-coated nylon shell. It can nd a wind load of 70 mph.





New Gear Better, More Comfortable

New intra-plane communications equipment that cuts distortion and fading as much as 95 percent and eliminates earphone discomfort has been achieved jointly by RCA and the Air Materiel Command. At left is the old equipment, with hand mike and bulky headset. The new type, right, has redesigned earphone, boom mike that swings out of the way and individual amplifiers at each station.



ew Gun Locker

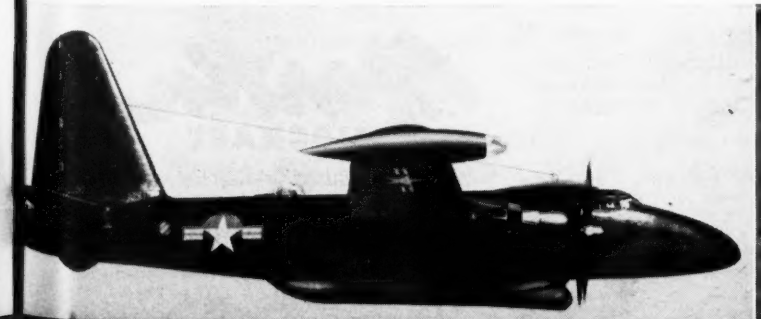
torage of 20-mm guns destined for e Northrop F-89 has been simplified ith this heat-and-humidity-controlled cker. Formerly guns had to be torn own, greased, and reassembled freuently, requiring about two hours per un. Guns have been stored in the new cker for as long as seven months and ere in good condition when inspected.

Chase Transport Gets Jet Power

USAF's first all-jet transport, the Chase XC-123A, made its first successful test flight at Trenton, N. J. It carries four GE J-47 engine, developing 5200 lb. thrust apiece. The basic design has been used as a glider and piston-powered plane.

Search and Rescue Planes, British and American Style

ockheed's P2V Neptune may get a new b. Now the Navy's prime anti-sub arch plane, a new design adapted for ir search and rescue is being considered the Air Force. Photo shows the Neptune carrying a droppable life raft for over-water missions. The Arctic version would have skis fitted over the wheels of the landing gear. Meanwhile, the RAF's Coastal Command got a new anti-submarine attack plane, the Avro Shackleton, below, right. The radar-equipped, long-range aircraft carries bombs, depth charges, and mines. It also carries a lifeboat for air-seas rescue duties.



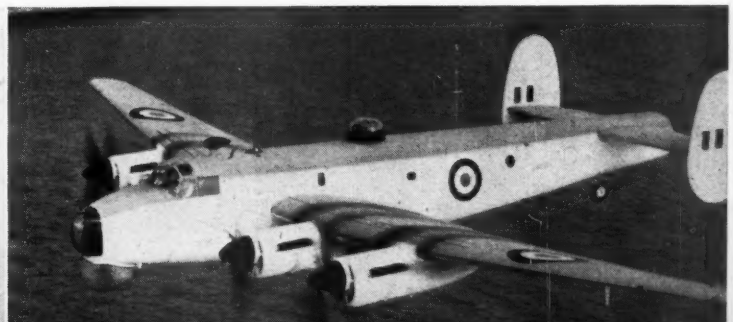


Photo courtesy of *The Aeroplane*, London

Trans-Atlantic Teamwork

. . . The twin-jet Canberra, being groomed to bolster our tactical air power, is a working example of British-American cooperation. Originally designed in England as a high-altitude radar bomber, its flight tests proved it to be as effective at low-level operations. Now, a night intruder version of this light jet bomber will be added to our own Air Force, built by Martin under license from English Electric Co., Ltd.

The Korean conflict has re-emphasized the importance of tactical air power in low-level support of ground troops. To this mission, the Canberra brings exceptional maneuverability at high combat speeds, and at low levels and low speeds . . . ability to whip around like a fighter and turn with the best of modern aircraft . . . ability to carry a potent, destructive wallop!

Martin
AIRCRAFT
Builders of Dependable Aircraft Since 1909

THE GLENN L. MARTIN COMPANY, Baltimore 3, Md.

Mobilization News

AIR RESERVE FORCES' PROGRAM for fiscal year beginning July 1, 1951 is aimed at regrouping the remaining Reservists (225,000 officers and 75,000 airmen not recalled by that date) into a system of more specialized training with emphasis on VART program. Since aircraft will be unavailable, no flying training for the components is planned in FY '52, according to testimony by top USAF officials before the Brooks Subcommittee.

INTERIM REQUIREMENTS to bring AF to full 95-wing strength include: (1) an "ultimate" 40 AF Reserve wings with equivalent aircraft and equipment for ten wings, (2) reconstruction of ANG to 27 wings of T/O&E type with full equipment, (3) doubling VAR facilities, and (4) one-third increase in flying-type facilities.

AF RESERVE AFFAIRS will be conducted in accordance with Dept. of Defense's recently-approved policies, as reported in May issue of AIR FORCE Magazine. For example, the planned T/O&E units would become a part of the Ready Reserve. Principal field agency for operation of the program will be ConAC, with its four geographic AFs further sub-divided into districts to develop, supervise and administer training activities. ANG will be trained under State organization in accordance with directives furnished from Hq, USAF through Guard Bureau.

FACILITIES WILL BE STEPPED UP in preparation for the new units, Gen. Hoag, Special Assistant to C/S for Reserves, told the Subcommittee. Available space on Regular AF bases or installations will be utilized, and joint use of existing military facilities will be accomplished.

A NEW PLAN is envisioned for unit and individual training of Reservists who otherwise would be unassigned due to distance of their residences from a Reserve unit. Civilian training agencies and industrial concerns will be contacted for purpose of consummating contracts for Reservists' training.

RECALL FOR FY '52 includes 19,000 officers, including ROTC graduates, from VAR and 6,848 airmen, 766 officers from ANG. By end of July '51, a total of 28,917 VAR officers will have been recalled to EAD. USAF lists following scarce specialty fields in which involuntary calls are predominant: communications, aircraft maintenance, finance, armament, air installations, and weather.

RELEASE OF VAR AIRMEN ON EAD is authorized after 12 months of service, while VAR officers ordered to duty since June 25, 1950 may be required to serve a minimum of 21 months. ANG and Organized Reserve airmen may obtain release upon completion of 21 month active service or upon termination of enlistments plus the one-year extension as required by PL 624, whichever is earlier. ROTC graduates reporting for active duty for a 24-month tour will be released on its completion, if they so desire. Upon acquisition of a fourth dependent, any Reserve officer or airmen on active duty may request an immediate return to inactive status. This release program is subject to change if world situation so requires.

(Continued on page 46)

WAF STRENGTH will be increased from present 7,000 to 48,000 by June, 1952; the buildup will result in ultimate strength of approximately 4,000 officers and 44,000 airmen. AF will begin commissioning in June approximately 200 officers per month. Reserve commissions will be offered to eligible women with or without prior service in grades of first and second lieutenant. Applicants must be 24 but not more than 32 years of age at time of appointment, have a baccalaureate degree, and possess three years of business or professional experience. Forms may be obtained by writing WAF Hq., USAF, Wash. 25, D.C.

296 WEST POINT AND ANNAPOLIS GRADUATES from the '51 classes have been named by Mr. Truman for AF commissions. 122 of 178 midshipmen will enter flight training, and entire quota of 199 cadets is slated for the wild blue yonder.

ELIGIBLE USAF REGULAR AND RESERVE AIRMEN may compete in preliminary exam on July 2, 1951 for entrance to West Point in July, 1952. Reserve airmen must have completed one year of enlisted service and/or active Reserve service by July 1, 1952. Applicants must have reached their 17th but not 22nd birthday by July 1, 1951, be unmarried and never have been married, and be high school graduates or possess equivalent education. Reservists now on active duty will be considered under their basic component quota when applying. Applications for exam must be made prior to next June 30; forms are available at AF bases or recruiting stations.

THIRTEEN ADDITIONAL SPECIALTIES in which AF is currently granting Reserve commissions were added in a recent change to AF Manual 36-5. They are: Research & Development Coordinator, Research Psychologist, Machine Records Officer, Food Services Staff Officer, Subsistence Supply Officer, Packing Officer, Laundry Officer, Auditing Officer, Comptroller, Program Analysis Officer, Design & Development Officer, Psychological Warfare Officer, and Foreign Languages, Propaganda Officer.

INTENSIVE FIELD EXERCISES are scheduled for approximately 17,000 officers and airmen of the five remaining non-EAD ANG wings this summer. Training will be taken in full-time two-week periods from early June to September.

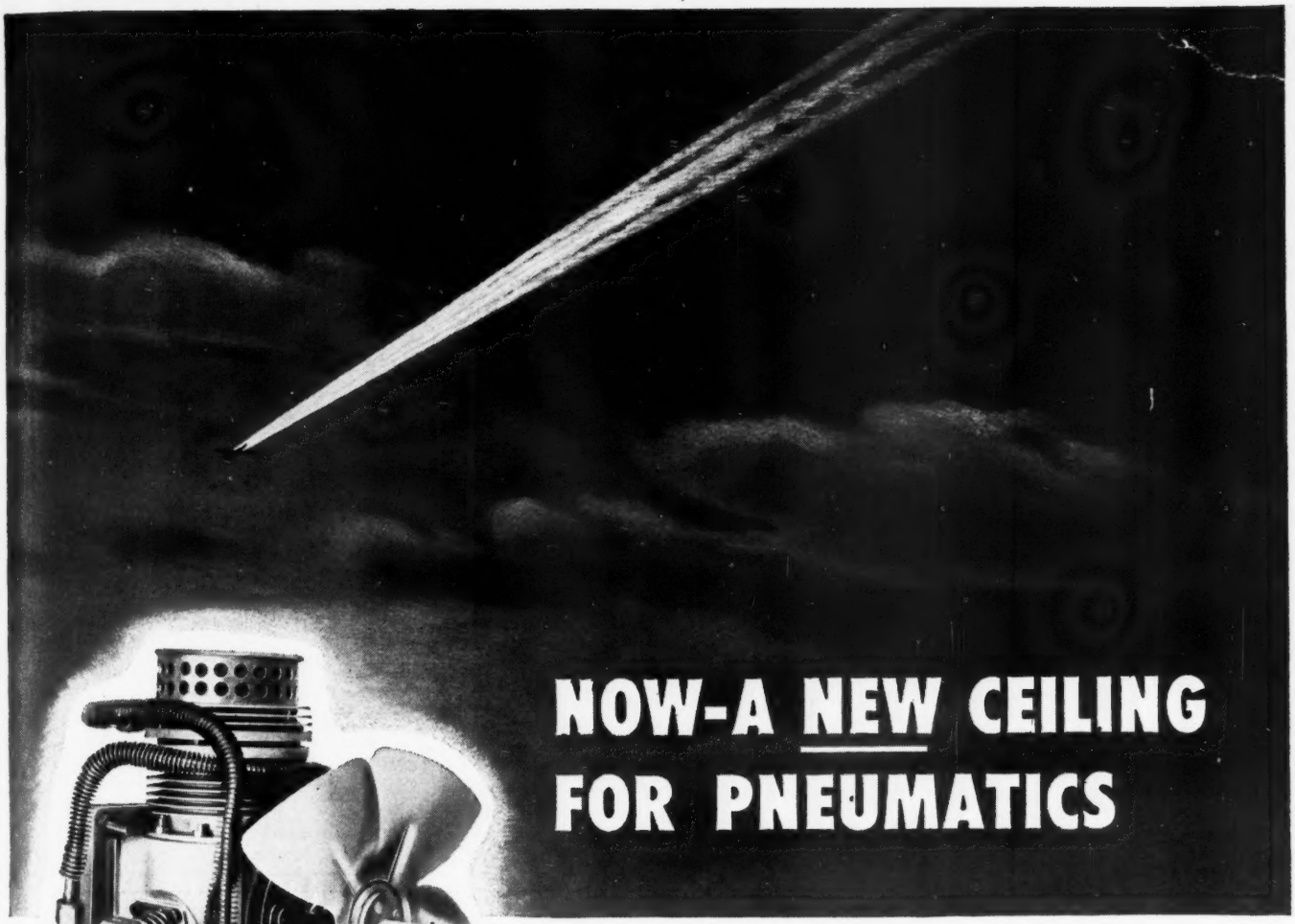
ARMY NATIONAL GUARD is being equipped with L-19's, the latest type all-metal Army aircraft used for observation, wire-laying and other missions. Procurement plans call for a two-thirds T/O&E conversion from the L-16's to the new type over next twelve months.

USAF EXTENSION COURSE INSTITUTE now has 23,245 students actively participating in its home-study courses. For information, write Commandant of Institute, Gunter AF Base, Montgomery, Ala.

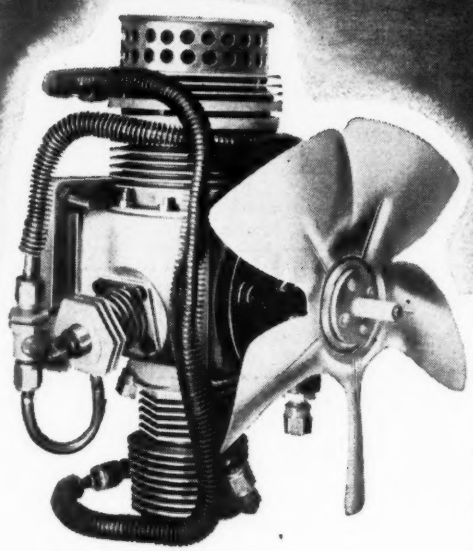
CIVIL AIR PATROL STRENGTH has risen to 78,210 members in 1423 units. Of the 78,210 actives, 45,220 are seniors.

ROSWELL L. GILPATRIC, 45-year-old N. Y. lawyer, has been appointed by the President to be Ass't Sec'y of AF, succeeding Hal Stuart, who resigned for business reasons.

(Readers are urged to write Service Director, AFA Headquarters, for any technical or detailed questions concerning the above information.)



NOW-A NEW CEILING FOR PNEUMATICS



New Kidde Compressor delivers volume at High Altitudes

High altitude—the bugaboo of pneumatically operated airborne equipment—has been licked by the new Kidde 4-stage compressor.

At 35,000 feet, this new, lightweight Kidde compressor will from ambient pressure, deliver one cfm of free air compressed to 3,000 psi. At sea level it will deliver *four* cfm of free air compressed to 3,000 psi. When inlet air is pressurized, *the sea level performance can be maintained at high altitudes.*

This new compressor, now being produced for installation in the planes of a leading aircraft company, opens a whole new field for the use of pneumatics. Its light weight and reliable performance make it well worth your consideration. Why not write and let a Kidde engineer supply you with full information on the Kidde compressor and the Kidde pneumatic devices for aircraft use.

Kidde Aircraft Pneumatic Devices Include:

- AIR COMPRESSORS
- REGULATORS
- HIGH PRESSURE CONTAINERS & VALVES
- SELECTOR VALVES
- GUN CHARGERS
- RELIEF VALVES
- PRESSURE SWITCHES
- CHECK VALVES
- MOISTURE SEPARATORS
- PNEUMATIC FUSES
- BACK-PRESSURE VALVES

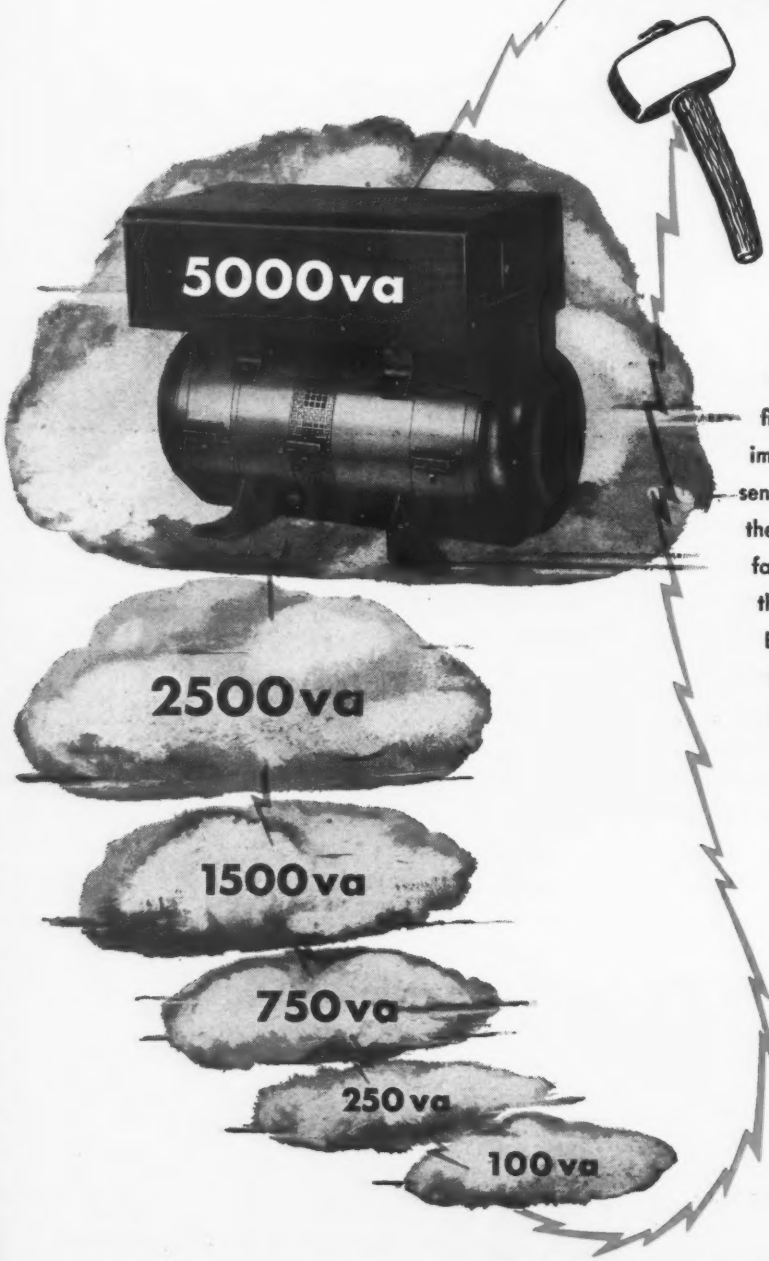
Walter Kidde & Company, Inc., 612 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde

no MYTH

...to controlled electrical power

The Legend of THOR—mythical Norse God
Thor was conceived in his character as a God of strength, a helper in war and a defender of peace. He was a red-bearded, red-haired youthful giant, armed with a magic hammer which he would cast at clouds, causing a mighty discharge of lightning and thunder.



. . . the ancients may have had to believe in myths and magic to explain the wonders of electrical power. There is no myth or magic about Eicor's development of electronically controlled inverters. It has been proven from laboratory reports, tests in the field and thousands of actual flying hours that by sound, imaginative engineering, we have produced dependable, sensitively controlled power conversion equipment to meet the most stringent of specifications. By designing and manufacturing a wide range of inverter sizes, we can now offer the aircraft industry a complete power conversion picture. BE WISE, specify an EICOR Electronically Controlled Inverter as the solution to your toughest power conversion problems.

Eicor inverters are designed for conversion of 26-29 volts DC and 110-120 volts DC input to 115 volts AC output, single or three phase, 400 cycle power.

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Cleveland Squadron Holds Indoor Air Meet

Members of American Airlines Gas Model Club dominate list of trophy winners in final air meet of 1951 championship series.

Members of the American Airlines Gas Model Club dominated the list of winners at the third and final indoor air meet of the 1951 championship series held in Cleveland recently. More than 100 contestants competed in the meet, which was sponsored by the Cuyahoga Founders Squadron, AFA, in cooperation with the Cleveland Press, and was under the direction of Leo B. Dixon.

Harvey Wade, John Humphreys and James Gibbs, all of the American Airlines Club, won the novice, senior and open perpetual high-point trophies, respectively. Junior high-point trophy went to James Bowers, Cleveland. Humphreys was presented a 21-jewel wrist watch by the Bulova Watch Co. for scoring greatest number of points in all three meets. His total was 3125.

In addition to the trophies, the four leading flyers received jackets from Gerry Hawes, local traffic manager for American Airlines.

The American Airlines Club's novice and senior flying teams walked away with the novice and senior perpetual team awards, the novice team for the second straight year. Air Scouts Squadron 9, who assisted in conducting the meets, won the Junior team award.

Teams were classified according to age—novices, 13 and younger; juniors, 14 through 16; seniors, 17 through 20. A club was allowed one team for each 10 members.

High point trophies for the novice, junior, senior and open contestants scoring the most points in all three meets were sponsored, respectively, by the Air Foundation, Bender and Masevice Co., jewelers; Clifton Coal and Supply Co., and the Indoor Air Meet.

Team trophies for the novice, junior, and senior "flying team" scoring the most points in the final meet were sponsored by the Cleveland Council of Model Aeronautics, the Cleveland Aviation Club, and the 112th Bomb Squadron, Air National Guard.

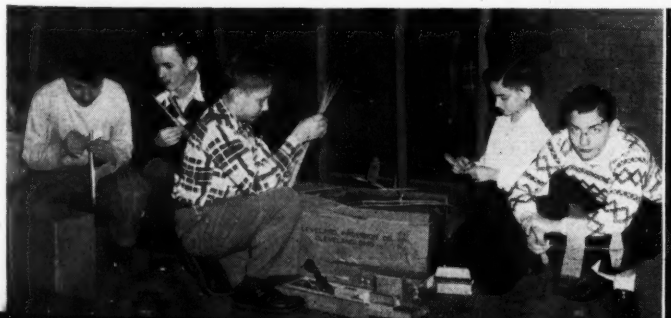
Besides the perpetual trophies and other prizes for high point winners, cash prizes, model kits and a ½-A gas motor were awarded winners through fifth place in each event. Prize donors were the Air Foundation, Jaye and Jaye, Inc., Hobby Enterprises, Cleveland

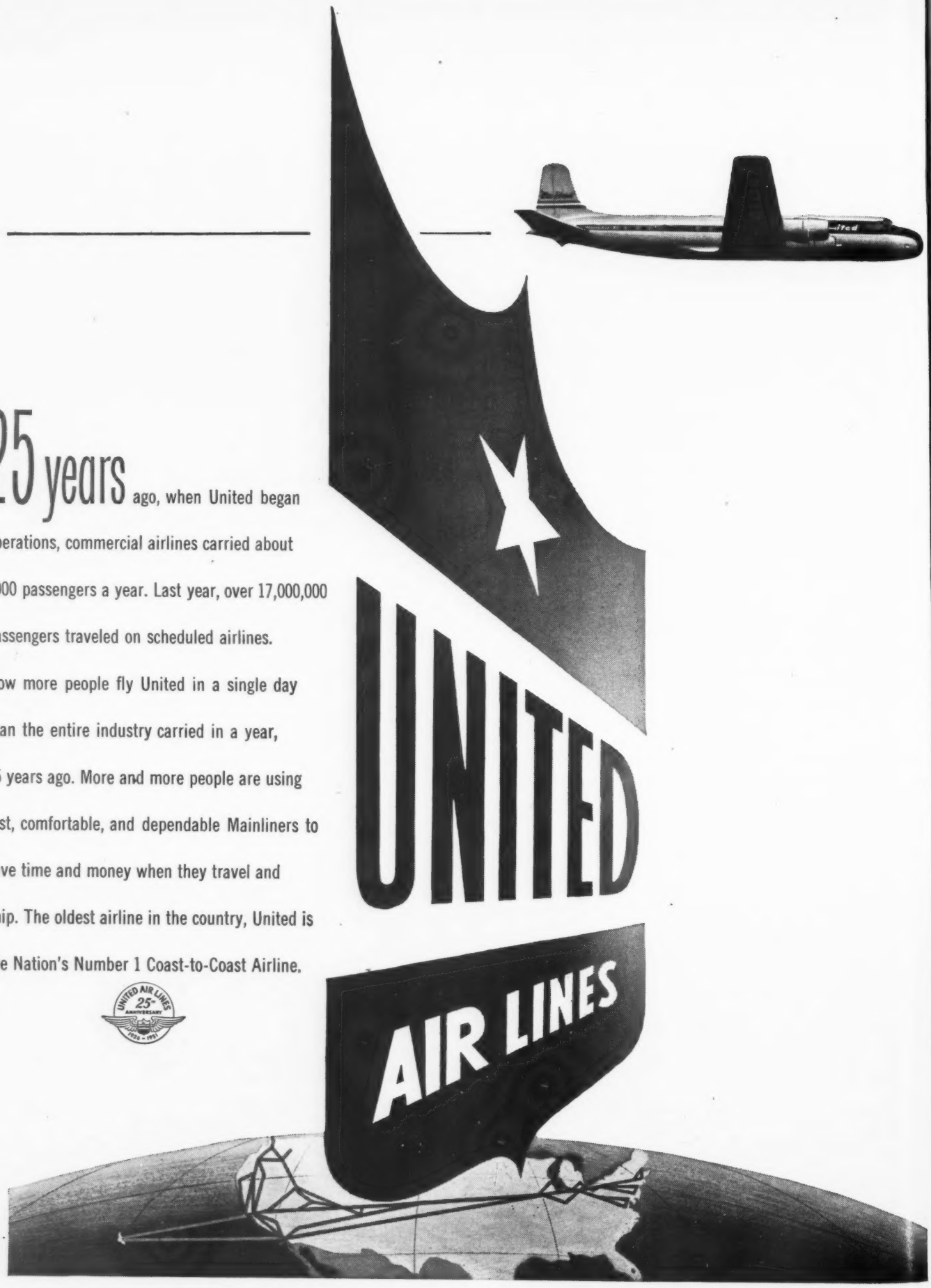
(Continued on page 51)

Time-keepers check watches as contestant launches his glider model.

As workers check registration figures (above), high point winner, J. Humphreys, holds plane over Squadron flag. Below (left) members of novice class team, 13 years old or younger, put models in shape for glider launching event.

Below are high point and team trophies, which were sponsored by civic, service and business groups in the Cleveland area, were placed on display in Armory during five official events of the meet. Leo B. Dixon was director.





25 years ago, when United began operations, commercial airlines carried about 6000 passengers a year. Last year, over 17,000,000 passengers traveled on scheduled airlines. Now more people fly United in a single day than the entire industry carried in a year, 25 years ago. More and more people are using fast, comfortable, and dependable Mainliners to save time and money when they travel and ship. The oldest airline in the country, United is the Nation's Number 1 Coast-to-Coast Airline.

UNITED AIR LINES 25th ANNIVERSARY 1926 - 1951

FOR RESERVATIONS, CALL OR WRITE UNITED OR AN AUTHORIZED TRAVEL AGENT.

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Women's Chapter of NAA, Taylor's Hobby Shop, and Mac's Model Shop.

Timers were Earl Erimie, Frank Konestabo, Eddie Plecki, Lou Bodlak, Bill Morgan, Gene Mushinski, Hank Kozak and Milt Hahn. The latter is chairman of the Junior Aviator activities.

The AFA Squadron's Ladies Auxiliary served refreshments. Food was donated by Belle Vernon Milk, Meyers Dairy, Producers Dairy, Wonder Bakers, and Fisher Foods.

There were five events—(1) Hand-launched gliders for junior, senior and open-age contestants; (2) novice hand-launched gliders; (3) special hand-launched gliders; (4) rubber-powered, tissue stick models, for junior, senior and open-age flyers; (5) microfilm stick for junior, senior and open.

William J. Morgan, 3309 Natchez Avenue, is commander of the AFA Squadron, and Ken Vetter is commander of the Cleveland AFA Group.

Arnold Air Society at Georgetown is Renamed

In memory of one of its top students killed in a light plane crash recently, the Georgetown University Squadron of the Arnold Air Society was redesignated the "B. J. Phoenix Squadron" in formal review ceremonies, April 24, 1951, on the Georgetown campus in Washington, D. C.

At the ceremonies the corps of cadets presented the Squadron guidon to Mrs. Henry L. Phoenix, mother of B. J. Phoenix. He was a campus leader and Distinguished Military Student in the Georgetown AF ROTC unit. The blue and gold fourragere, emblematic of AAS membership, was pinned to the guidon by Mrs. Phoenix and will permanently remain there as a memorial to "the qualities of leadership and moral character demonstrated by B. J. Phoenix."

Cadet Captain Phoenix and three other Georgetown students crashed near Mt. Pleasant, Pa., on March 21, 1951 while flying home to Chicago for the Easter holidays in a private plane. All were killed.

Colonel Remington Orsinger, PAS&T, and Major David B. Moody, PAS&T escorted Mrs. Phoenix. Cadet Lt. Col. M. J. Carcich, Cherry Point, N. C., commander of the Georgetown Arnold Air Society Squadron, led the review parade.

Mrs. Henry L. Phoenix, mother of B. J. Phoenix, pins fourragere to Arnold Air Society Squadron guidon in recent ceremony honoring her late son. From left, Col. R. Orsinger, Georgetown PAS&T; Mrs. Phoenix; Major D. Moody, PAS&T.

IN MEMORIAM

The Air Force Association mourns the death of its Southwest Regional Vice President, William N. Hensley, who was killed in the crash of his jet fighter on May 10 while flying from his home state of Texas to Langley Field, Virginia, where he was serving as Commanding Officer of the 136th Fighter-Bomber Group. Hensley served as CO of a B-29 Squadron during World War II and was recalled to active duty last October, along with the Texas Air National Guard unit he commanded. Bill was elected VP of AFA in 1949 and 1950.

Herbert O. Fisher, test pilot, is new honorary member of Air Force Ass'n.

Test Pilot Honored by La Guardia AFA Squadron

Herbert O. Fisher, top-ranking engineering test pilot, was presented with an Honorary Membership in the Air Force Association by Robert S. Johnson, National President, at a recent dinner meeting of the LaGuardia Airport Squadron, (N. Y.) of the Air Force Association.

The membership was awarded in recognition of Fisher's outstanding aeronautical contributions to military and civil aviation during the past 20 years, as well as his interest in the LaGuardia Airport Squadron.

Walter Hartung, Squadron commander said, "This honor has been presented Fisher for outstanding services in furthering the aims and purposes to which the Air Force Association is pledged.

Fisher has conducted flight research during the past 14 years on more than 4,000 single and multi-engine airplanes and is particularly well known for his work as a civilian test pilot, flying the famous Himalayan Hump run during the last war, in the China-Burma-India Theater.

SAC Film Released

"Strategic Air Power," SFP 260, a black and white USAF public information film which has been cleared for all public non-profit, theatrical and television screenings, is a dramatic documentary presenting the mission of the Strategic Air Command and explaining the role played by the men and planes of SAC in carrying out that mission.

The film has been distributed and may be borrowed by AFA Squadrons from their nearest USAF Area Film Library.

(AFA News Continued on page 52)

Jennings Randolph, Assistant to the President of Capital Airlines, talks to Capital Squadron at dinner-dance.

George D. Hardy, AFA Central East VP, left, and Lloyd E. Streifuss, right, look on as Paul S. Devine, Capital Squadron Commander, pins official ribbon on Miss Alice Duggan, Capital Airlines hostess, named 1951 Squadron Sweetheart.

D.C. Squadron Dinner

Alice Duggan,, Capital Airlines Constellation hostess, was elected Sweetheart of the Capital Squadron, Air Force Association, last month. The occasion was the Squadron's second anniversary dinner dance, which was held at the Continental Hotel in Washington, D. C.

The Squadron was originally organized on the campus of Catholic University in Washington and was named the "Cardinal Squadron after the nickname given to Catholic U. athletic teams. Since that time the membership has spread to take in all sections of the city. Hence the Squadron chose its anniversary as a fitting time to change its name to the more appropriate "Capital" Squadron. The dinner dance was well attended.

Jennings Randolph, assistant to the president of Capital Airlines and former Congressman from West Virginia, spoke on "Americans United for Airpower." He was introduced by Ralph V. Whitener, AFA's Organizational Director.

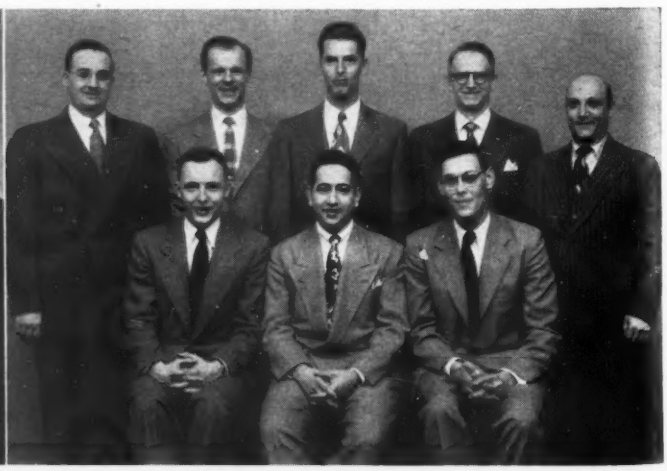
George D. Hardy, AFA Vice President for the Central East Region, on behalf of the Squadron, presented a Past Commander's pin to retiring Squadron Commander Maynard H. Smith, holder of the Congressional Medal of Honor. Paul Devine, 2940 Courtland Place, N. W., Washington, is the present commander of the Unit.

Miss Ana Luisa Branger, a Venezuelan who recently established a world altitude record of more than 27,000 feet in her Piper Special plane at the Alexandria, Va., Airport, was a guest of the Squadron.

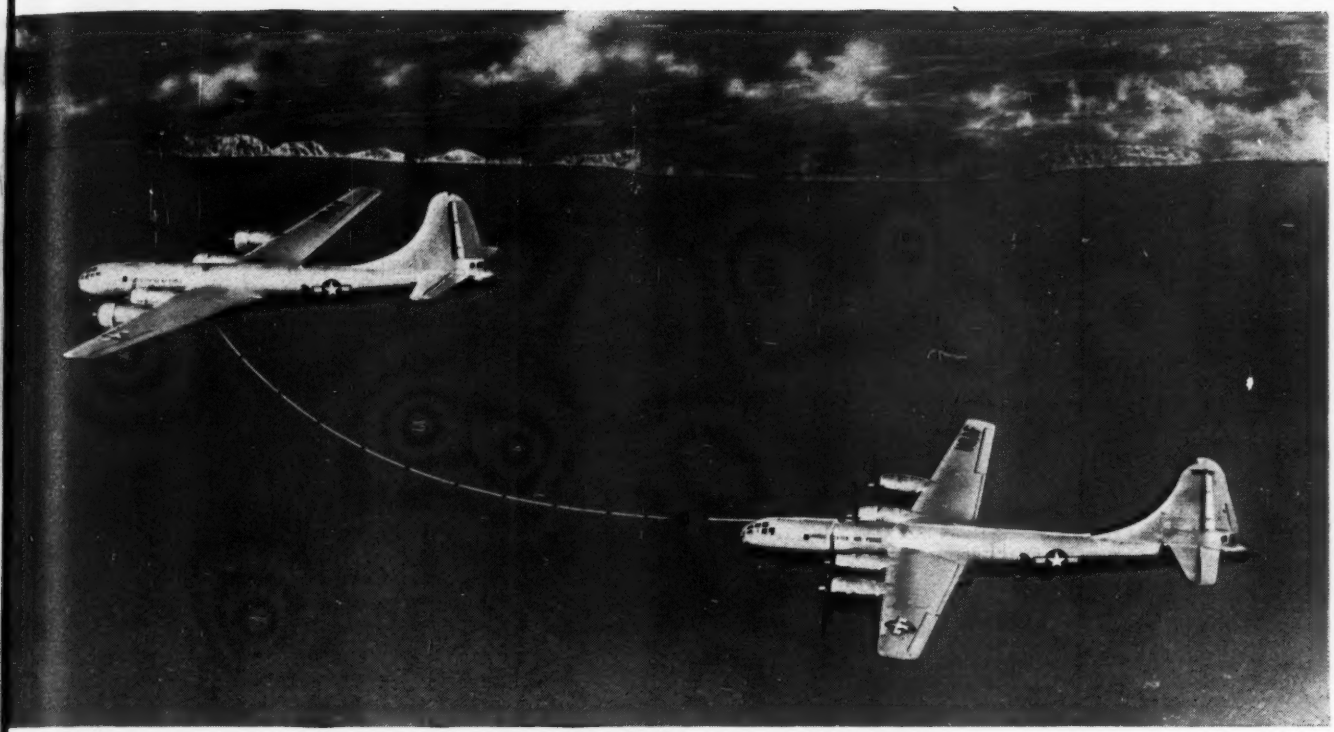
Dance music was provided by a five-piece ensemble from Bolling AF Base, D. C. Miss Betty Cardinal, popular Washington vocalist, sang. Door prizes were presented. Joe Bates was Program and Publicity Chairman.

Monthly meetings of the Squadron are held in the Carlton Hotel at 8 p. m. on the third Thursday of each month. For further information, call ME 5162 after 6 p. m.

"Casey" Jones, former AFA Director and New York Wing Commander, discusses AFA with Jo Sullivan, now appearing at N.Y.C.'s Hotel Pierre Cotillion Room, and Harold Glasser, Commander of the Manhattan AFA Squadron, during Squadron anniversary dinner. Barry Faris, editor-in-chief of the International News Service, spoke to the group and guests.



Officers of the newly chartered Syracuse, New York AFA Squadron: seated, l to r, Trevor Davies, Treasurer; Alfred Romeo, Commander; Forrest Vosler, Vice-Commander and Medal of Honor holder; George Callander, Secretary; Richard M. Krieger, Donald Havill, Col. Edward Hildreth, William Lowenstein. Harold E. Gray was not present for photo.



Flight Refueling

means

- **EXTENDED RANGE**
- **INCREASED PAYLOAD**
- **GREATER SAFETY**
- **SHORTER TAKE-OFF**

A practical means of range extension, without resorting to an increase in aircraft size and carrying capacity, has been made possible by a new flight refueling technique.

Security regulations do not yet permit a full disclosure of the notable results achieved in military applications, but the many advantages of flight refueling are available to commercial operators. The use of this technique will allow greater aircraft utilization, and will reduce direct operating costs substantially.

FLIGHT REFUELING INC.

Specialists in Aircraft Fueling Systems and Equipment

Danbury, Conn., U.S.A.

WHO'S been hibernatin'?

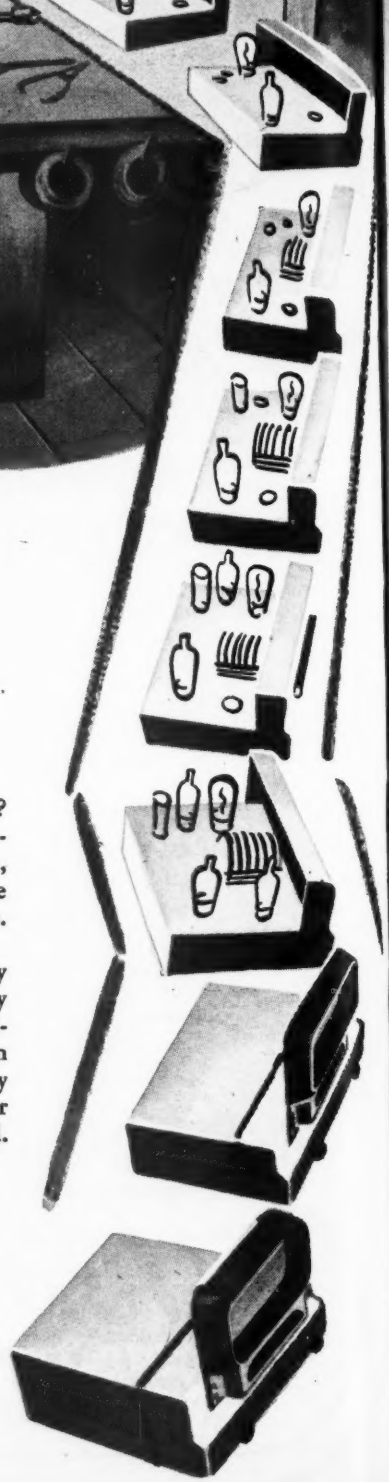
If you'll pardon the pun, we at Delco Radio don't *bear* the slightest resemblance to brother Bruin.

We haven't been hibernatin' . . . not by a long shot!

The fact is we've been too busy for words . . . and *have been* ever since those critical days of World War II when we produced tons and tons of radio and electronic equipment for the armed forces.

You know those fine resonant radios in Cadillacs and Buicks and other GM cars? They're our products. Last year we produced nearly 2,000,000 radios for cars, trucks and other vehicles . . . many more than any other builder in the business.

You see, we've really been busy . . . busy getting additional experience . . . busy acquiring greater facilities . . . busy finding new ways to increase production efficiency. And, today, we can truthfully say that we're better prepared than ever to serve our country. Just say the word. We're ready to go!



Delco Radio

DIVISION, GENERAL MOTORS CORPORATION
KOKOMO, INDIANA

AFA STATE ROUNDUP

Lee Kranz (right), retiring Brooklyn Squadron CO receives token of appreciation from new CO Art Wegman.

CALIFORNIA

Los Angeles: Major Charles Yeager, AF test pilot and the first man to fly faster than sound, addressed a meeting of the Los Angeles Squadron, AFA, on May 2 in the Chapman Park Hotel. The meeting was open to the public.

Bernard Peters, 252 N. Freeman Blvd., Inglewood, is commander of the Squadron, which takes in the Metropolitan Los Angeles area.

MICHIGAN

Jackson: M/Sgt. James B. Lundie, USAF, of Detroit addressed the Jackson Squadron, AFA, at the Jackson Navy Club recently. He also showed the AF film, "Air War in Korea," and movies produced by the State Conservation Department. Developments affecting Air Reservists were discussed by William Preston. Plans for the Squadron's annual spring funfest were talked over during the business session.

Donald D. Hull, 736 West High Street, commands the Squadron.

MASSACHUSETTS

Taunton: The Taunton Squadron, AFA, plans to present a plaque to the people of Taunton, England, as a tribute to the hospitality rendered Taunton, Massachusetts servicemen during World War II, Squadron Secretary Edwin T. Morrell has announced.

It is with profound regret that the Air Force Association notes the recent death of Henry King, an Honorary Member of the Taunton Squadron and the first recipient of the Squadron's annual trophy for the person who had done the most for aviation in that section. He served as a pilot in World War I. After some barnstorming, he established the King Airport in Taunton in the early '20s. He did a tremendous job in promoting and keeping aviation alive.

The Taunton Squadron publishes a unique weekly Newsletter for its mem-

(Continued on page 57)

Lightweight Actuators...

with Strong-arm Power

or a Watchmaker's Skill!

Whether you want to raise the heaviest landing gear or exercise the most precise positioning control, Breeze actuators can meet your exact requirements. A pioneer in actuator design, Breeze has the engineering experience, the production capacity and skill to solve problems quickly, to meet your delivery schedules. So whatever you want to push, pull, raise, lower, hold, release, twist or otherwise control, it pays to talk actuators with Breeze.

WRITE TODAY outlining your control problem; or submit your sketches. Our engineers will gladly assist you.

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Job engineered, welded - diaphragm bellows.

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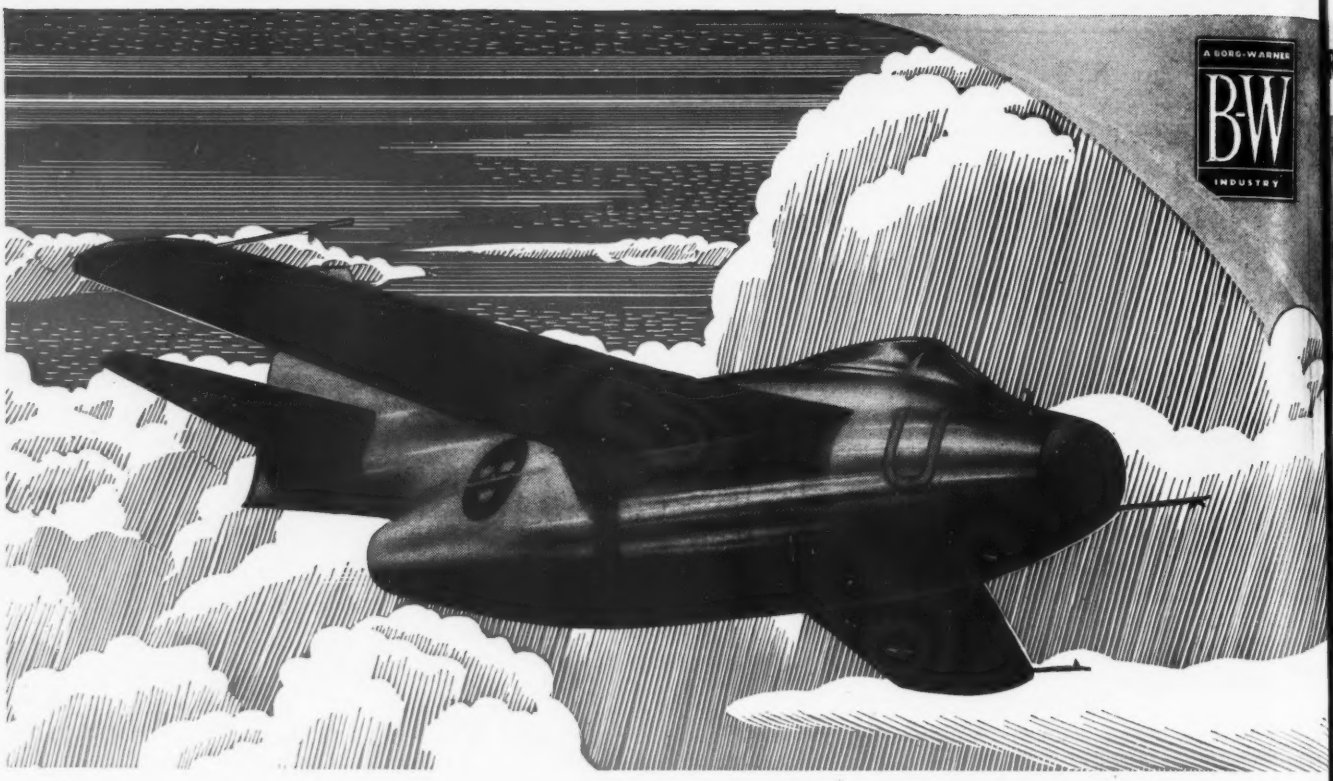


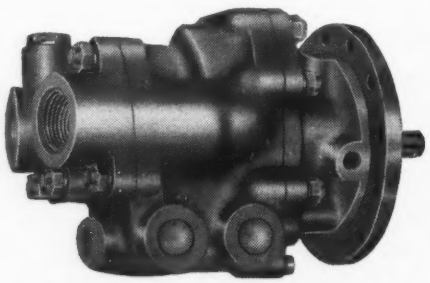
Another PESCO FIRST...the Unloading Gear Pump ...flies with SAAB at transonic speeds

Lighter weight . . . longer service life . . . lower maintenance expense . . . smaller initial cost . . . four good reasons why Pesco's new unloading gear-type hydraulic pump is rapidly replacing conventional variable volume pumps on aircraft . . . particularly jets.

Among the first to take advantage of the many benefits of Pesco's latest contribution to more efficient, more dependable aircraft operation is the famous Swedish SAAB Aircraft Company. Its new SAAB-29, designed to fly at speeds up to the transonic speed range, depends on the Pesco Unloading Gear Pump for all hydraulic operations including landing gear, wing flap, brake operation, etc.

Always alert to the demands of aircraft makers for reductions in weight, elimination of service and maintenance problems, and lower costs, Pesco research engineers are continually searching for ways to improve present equipment as well as develop new products to meet these important requirements.

It is this constant research that keeps Pesco aviation products standard equipment on military and commercial aircraft. If you have a problem in aircraft hydraulics or fuel handling, perhaps this experience can help you. A Pesco engineer will gladly discuss your problem with you . . . without obligation, of course.



Pesco Model 011799 Unloading Gear Pump. Weight 8.6 lbs. Maximum continuous operating pressure 1500 p.s.i. Capacity 2 g.p.m. at 1500 r.p.m. Features Pesco's exclusive, patented "Pressure Loading" principle. Other models available for pressures to 3000 p.s.i.

engineering Pesco production

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Albany AFA Past Commanders: standing (left to right) James J. Cassidy, Frank Murdaugh, Earle Ribero; seated, Edward Healy and Mrs. Joseph E. Carr, representing her husband who is flying a B-26 in Korea.

bers. The publication is edited by William H. Hadley, Jr.

Worcester: Worcester Squadron, Air Force Association, held a joint party with the Auxiliary last month in the Providence Street School quarters. George I. Alberts was chairman. The party was a sendoff to many members who have been recalled to active duty with the 24th Squadron. Thomas C. Stebbins, 66 Uxbridge Street, is Squadron Commander.

NEW JERSEY

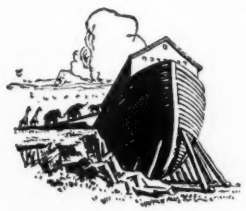
Newark: Lt. Col. William H. Powell, a member of the 52nd Fighter-Interceptor Group, McGuire AF Base, who served with the Navy as an exchange pilot in Korea spoke at a recent luncheon at the

(Continued on page 58)

Harpel W. Keller, investment counsel, was recently elected commander of AFA Squadron in Portland, Ore.

AVITRUC XC-123 Loading Jeeps

Capacity



Designed to carry a useful load greater than its weight, empty . . . a spacious compartment to accommodate bulk cargo or rolling stock . . . a power actuated ramp to facilitate loading and unloading.
AVITRUC—the airplane for fast, efficient, economical handling and delivery of air cargo.

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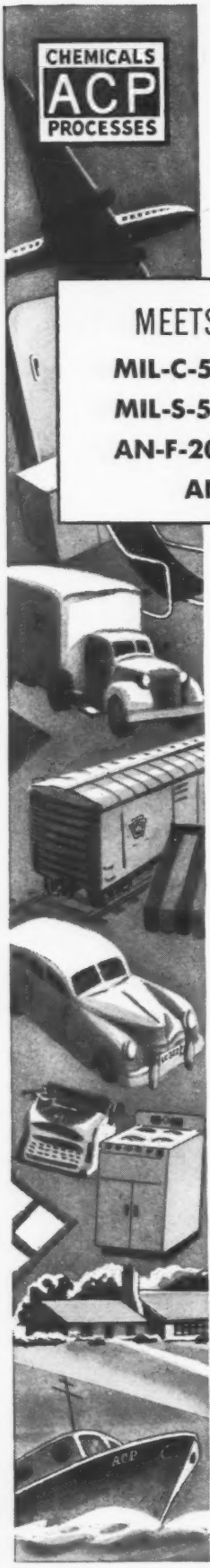
STROUKOFF AVITRUC



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AN-C-170 (See MIL-C-5541)	

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ALODIZING is an electroless protective surface conversion process for bonding paint to aluminum and protecting the metal.

Tough, durable ALODIZED surfaces are obtained easily and rapidly by immersion, brushing, or spraying in a multi-stage power washer.

ALODINE amorphous phosphate coatings provide extra paint permanence and extra durability for aluminum parts and products.

BRUSH "ALODINE" PROTECTS ALUMINUM IN THE FIELD, SHOP, OR HANGAR

Brush ALODINE is easily applied in a simple brush-on or flow coat process to large assemblies and surfaces—airplanes, trucks, trailers, boats, housing, building siding, railway cars, bridges, etc.—that are too bulky or too remote to be conveniently treated in tanks or a multi-stage power spray washer. The cleaning and coating chemicals for Brush ALODIZING are shipped in bulk or in the convenient Brush ALODINE Chemical Kit No. 1. This Kit contains enough chemicals to treat about 1,000 square feet of surface and is an ideal package for use at airfields of commercial airlines or of the Armed Services anywhere.

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AMERICAN CHEMICAL PAINT COMPANY

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Manufacturers of Metallurgical, Agricultural and Pharmaceutical Chemicals

Isabel Redding, member of N.Y. WAC Squadron, serves food to vet patients during party held in their honor recently. Other members assisted her.

Robert Treat Hotel. The luncheon was a feature of AFA's Northeast Region convention. Ralph Whitener of National AFA Headquarters also addressed the AFA leaders.

Warren De Brown, RFD 1, Box 4-D, Red Bank, is Vice President of the Northeast Region.

Paterson: Hundreds of Air Force members, past and present, will make the third annual New Jersey AFA Wing convention to be held on Saturday, June 16 at the Alexander Hamilton Hotel in Paterson, a rallying point for meeting with staff members from National Headquarters and aviation leaders from business and government spheres.

John J. Currie, AFA's New Jersey Wing Commander, announced the program, which is being handled by a convention committee appointed by Convention Chairman Robert Westerveld. Irving Zeichner, committee chairman, will be assisted by Charles Slingland and John Hagerstrom.

Invitations have been extended to civic, industrial, and military leaders to speak during various phases of the convention program. Frank E. Kimble, Jr., chief of the Bureau of Aeronautics for State of New Jersey, is expected to be one of the speakers.

The convention banquet, to be preceded by business sessions, will include the presentation of awards for outstanding aviation achievement in New Jersey during the last year. James Doeler is in charge of awards.

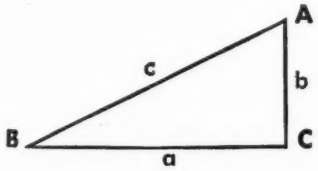
In keeping with previous wing conventions, each of the New Jersey squadrons will sponsor a beauty queen. The winner will receive the title, "Miss AFA of New Jersey."

Westerveld has urged all prospective convention-goers to make reservations with the Wing Convention Headquar-

(Continued on page 61)

LITTLE THINGS ARE IMPORTANT!

Arma Electrical Resolver



Making important things little is a militarily vital objective of the accelerated engineering activity which characterizes Arma. Making them little and interchangeable and more accurate...all at the same time.

An example of advancing miniaturizing accomplishment is the new lighter, more accurate and interchangeable Arma electrical resolver. This is one of the computing components that replaced a formidable aggregation of gears, bearings and slides previously used in fire-control equipment to solve the trigonometric functions. It is the "thinking" mechanism in modern military instrumentation which solves such gun-laying equations as $a = c \sin A = c \cos B$ instantaneously.

The mechanical resolvers of World War II have since given way to the electrical. Application of the new miniature Arma electrical resolvers to the needs of all the Services is widening as rapidly as accelerated engineering can push it. This is another way Arma engineers work to help make America safe against those who wish to destroy it.

QUALITY ARMA INSTRUMENT PRECISION

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SUBSIDIARY OF AMERICAN BOSCH CORPORATION

PRINCIPAL PRODUCTS

Gyroscopic Compasses • Gunfire Control Systems • Stabilizing Devices • Automatic Control Switchboards • Electrical & Electronic Equip. Electrical Computers • Airborne Instrumentation • Navigational & Plotting Instruments • Mechanical Computers • Servo Mechanisms

IN THE NEWS

TURBOPROPS

The Turbodyne, most powerful propeller-type aircraft powerplant in the country, delivers more than 8000 horsepower in addition to an undisclosed amount of thrust. Here, Jim LaPierre, manager of G-E's Aircraft Gas Turbine Divisions, and Virg Weaver, in charge of the Turbodyne project, take a look at the engine on the stand where it is undergoing rigorous tests.

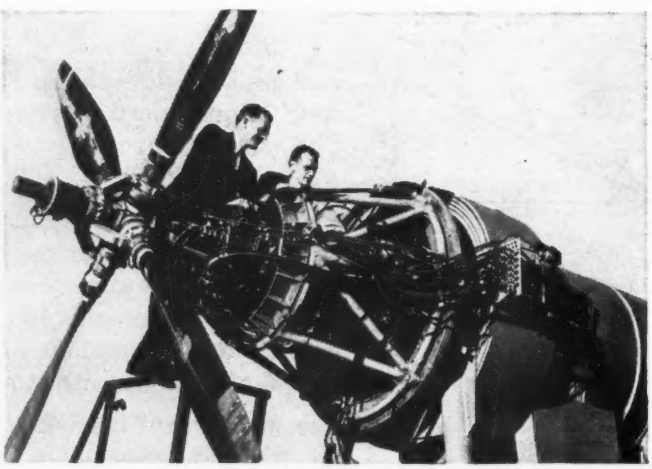
Ten years ago, in July, 1941, G-E engineers started work on a new type aircraft powerplant—an axial-flow gas turbine driving a propeller. This was the TG-100, the first turboprop in the country and the forerunner of future powerful engines.

General Electric engineers today are experimenting with the Turbodyne, a Northrop development. Although larger than required for today's transport needs, the Turbodyne presents an ideal vehicle for testing new ideas and methods.

New and improved turboprop engines are in the books at General Electric. Light weight and high powered, these engines will someday be lifting new aircraft to new uses and new records.

When you're considering powerplants, call in the company that pioneered the aircraft gas turbine industry. Telephone your General Electric aviation specialist, or write General Electric Company, Schenectady 5, N. Y.

Convair XP-81, first turboprop-powered aircraft to fly in U.S., powered by TG-100, first American turboprop.



Design engineers Alan Howard and C. J. Walker, inspect an early TG-100 turboprop on test stand in Schenectady.

AIRCRAFT GAS TURBINES

GENERAL ELECTRIC

210-22

ters, Box 1831, Paterson. Registrations will be handled by Walter Grimes, assisted by Joseph Petak, Michael Janasko and Arthur Cousemaker.

NEW YORK

Albany: Fourteen members of the Niagara Falls AFA Squadron have been recalled to active duty in the 136th Fighter Squadron, based at Niagara Falls Airport.

Charlie Foss and John Amery have been appointed to a committee to investigate the possibility of renaming the local airport in honor of a Niagara Falls man who was in the Air Force.

Bill Benedict is secretary of the Squadron.

New York City: Barry Faris, Editor-in-Chief of INS, was guest speaker at the May meeting of Manhattan AFA Squadron No. 1 at the Princeton Club. Mr. Faris recently returned from Tokyo and Korea. Harold L. Glasser is commander of the Squadron.

Patients at the Bronx's Kingsbridge VA Hospital were guests last month at another in a series of parties staged by members of the New York City AFA Squadron No. 1 (WAC) for veterans and service personnel hospitalized in the New York area.

Squadron Treasurer Clara Haubrich recently reported a balance on hand, as of March, 1951, of $327.94. She also reported that, of the 162 Year Books printed, only 82 were sold. The balance of 80 books are to be sold at 50 cents each.

Emma Meister, 309 Monastery Place, Union City, N. J., is commander of the WAC Squadron.

OREGON

Portland: Harpel W. Keller, investment counselor, was elected commander of the Portland Squadron, AFA, at a recent meeting held at Portland AF Base.

Other officers are: H. F. Unger, Jr., vice commander; Hollis Jones, secretary; Warren Tolan, treasurer; Lorenzo Goodrich, Roy Frye, Kenneth Bostwick and Ashley Greene, members of the council.

Information concerning Squadron activities may be obtained by phoning Mr. Greene at Broadway 1207.

RHODE ISLAND

Cranston: Thomas P. Wallace was elected commander of AFA's Cranston Squadron, at the annual meeting held recently in the Brine Post Home, 1190 Pontiac Avenue, Cranston. James Thatcher presided.

Other officers elected are: C. Champlin Starr, vice commander; Eugene Verrier, secretary; Alfred J. Palumbo, treasurer; Rolf E. Johnson, Henry A. Minkema, Jr., and Girard A. Bergeron, executive council members.

The Squadron went on record as favoring the UMT bill now in Congress, and members were urged to write their Congressmen to work for its passage.

Marcello A. Tropea, Rhode Island Wing Commander, was guest at the dinner, and gave the Squadron a resume of the Wing activities. Movies were shown by Joseph Lancia, and T. Albert Melei entertained with songs.

PENNSYLVANIA

Philadelphia: Lee Gilboy was elected temporary president, and Ruth Miller, temporary secretary, at the first meeting of the Metropolitan Philadelphia AFA Squadron Ladies Auxiliary.

The Auxiliary staged its first card party on May 26 in the Lido Restaurant. Marty Wilcox was chairman.

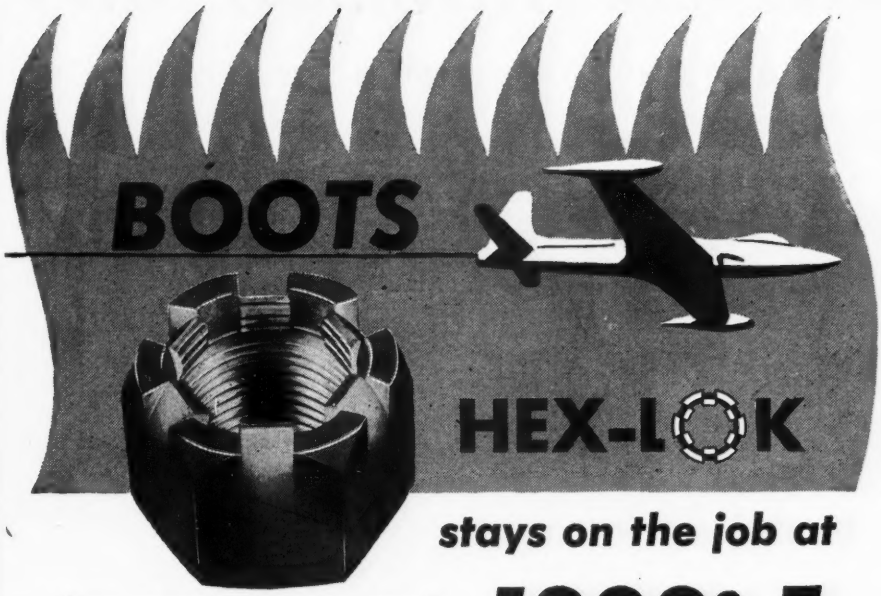
Lt. Col William H. Powell of the 52nd Fighter Group Headquarters, McGuire AF Base, was guest speaker at a recent meeting of the Philadelphia Squadron.

I. E. Brodsky, 1133 Arch Street, is commander of the AFA unit.

WEST VIRGINIA

Wheeling: The Wheeling Squadron, AFA, at a recent meeting, had as its guests the Wheeling Air Reserve Squadron and the Civil Air Patrol. All AF veterans in the area were invited.

Squadron Commander Robert L. Upton, 41 Acosta Avenue, announced at the last meeting that AIR FORCE Magazine, which has been placed in several schools, the library, the airport, and newspaper office (through efforts of the Wheeling Squadron) has been much in demand due to the articles on the air war in Korea.



stays on the job at

temperatures up to 1200° F

That's good news, when you add it to the established fact that BOOTS self-locking, all-metal, one-piece construction:

***RESISTS VIBRATION** with a positive force through a unique locking principle. HEX-LOK provides fastening and locking surfaces integrated in one structural unit.*

***RESISTS STRUCTURAL BREAKDOWN** due to frequent, radical temperature changes.*

HEX-LOK is available in all popular sizes.
When you need high torque retention, high reusability, simplified maintenance, less weight, INSIST on the BOOTS HEX-LOK!
HEX-LOK is satisfying a wide variety of applications for aircraft engines and airframes at temperatures up to 1200° F.

Inquire about the complete line of *BOOTS* self-locking nuts.

PLATE-LOK TYPES AVAILABLE:

PROBLEMS? Send us details. We'll supply experimental quantities FREE.

LITERATURE? Write now for the new BOOTS catalog, soon to be released.

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STAMFORD, CONNECTICUT

MAKE YOUR RESERVATIONS EARLY!

for AFA's FIFTH ANNUAL CONVENTION & REUNION

LOS ANGELES, CALIFORNIA

AUGUST 23 • 24 • 25 • 26

HOTELS RESERVED FOR AFA CONVENTION & REUNION

NAME OF HOTEL	RATES PER DAY			
	Single	Double	Twin	Extra Cots
Ambassador	$ 9.00	$14.00	$14.00	$ 3.00
Chapman Park	7.00	11.00	11.00	2.00
Chancellor	5.00	6.50	7.00	1.50
Gaylord	6.00	8.00	10.00	2.00
Hollywood Drake	5.00	6.00	6.50	
Hollywood Knickerbocker	6.00	8.00	8.00	2.00
Hollywood Plaza	5.50	7.00	7.00	2.00
Hollywood Roosevelt	8.00	10.00	10.00	2.00
Mayan	3.50	4.00	4.50	1.00
Park Wilshire	6.00	10.00	10.00	No C.
Town House	10.00	14.00	14.00	3.00

Rooms have been allocated by 11 hotels in the Los Angeles-Hollywood area to fill reservations made by AFA members, wives, guests and Air Force friends who plan to attend the Fifth Annual National Convention and Reunion of the Air Force Association on August 23-26. This is an extremely important arrangement and every effort has been made to obtain fine accommodations at desirable prices. Because of the size of the hotels in that area, it will be necessary for AFA to use the facilities of at least the 11 hotels already contacted.

Convention headquarters will be located at the Ambassador Hotel, 3400 Wilshire Boulevard, midway between downtown Los Angeles and Hollywood. During past AFA conventions, approximately 1500 hotel rooms have been used. Since only 300 rooms are available at the Ambassador, only a portion of those attending the convention can be housed at the headquarters hotel. Rooms will be assigned on a first-come-first-served basis. Therefore, the sooner you fill in the coupon below, the better your chances of getting the exact room and hotel you want.

All hotel room reservation requests must be sent to the Los Angeles Convention Bureau, 1151 South Broadway, which will act as clearing house for all reservations. Do not send your request directly to the hotel or AFA Headquarters. It will only be delayed. Also, each request should list the first, second and third hotel selections, so that if the exact type room requested is not available, the next best may be assigned.

All of the hotels selected are good ones. The following are located in the immediate vicinity of the Ambassador: Chapman Park, Chancellor, Gaylord, Mayan, Park Wilshire, and the Town House. The others are located about 10 minutes away, at the famed Hollywood and Vine section of the motion picture capital.

Act now—assure yourself the room and hotel you desire. Clip, fill in, and mail the coupon below today!!

CLIP OUT • FILL IN • MAIL TODAY

AIR FORCE ASSOCIATION CONVENTION
HOTEL ROOM RESERVATION REQUEST
August 23-24-25-26, 1951

(MISS / (MR. (Please Print)

NAME (MRS. .....

ADDRESS .....

CITY..... STATE.....

ARRIVAL DATE .....HOUR.....

DEPARTURE DATE .....HOUR.....

NAME OF PERSON(S) SHARING ROOM:

.....

.....

MAIL TO:

Air Force Association Convention
c/o Los Angeles Convention Bureau
1151 South Broadway
Los Angeles 15, Calif.

CHOICE: HOTEL DESIRED:

First .....

Second .....

Third .....

TYPE ROOM DESIRED

☐ Single ☐ Double ☐ Twin

☐ Extra Cot

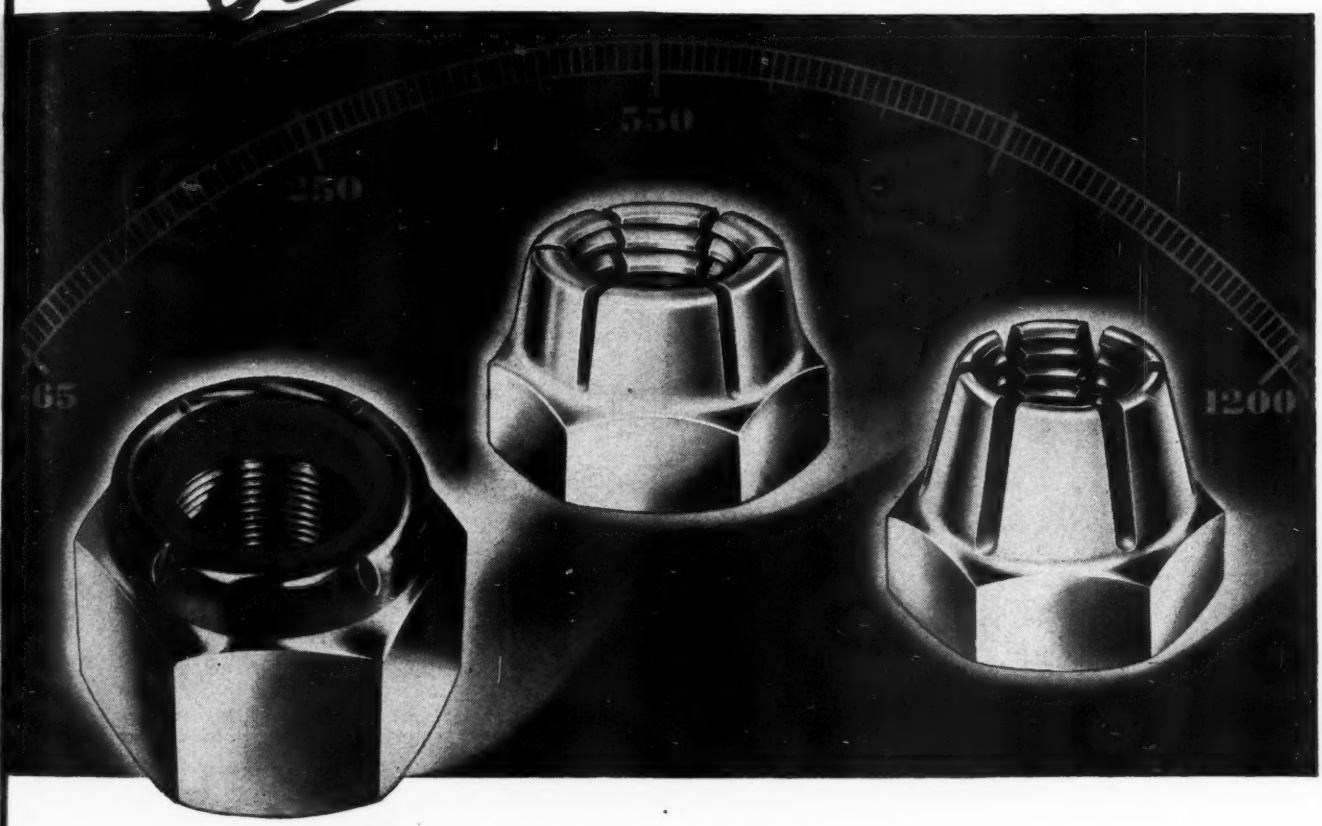
Desired rate per day: $.....

NOW!

ESNA spans the temperature field

-65°F to 1200°F

with SELF-LOCKING ELASTIC STOP NUTS



—famous Elastic Stop Nuts protect permanently against VIBRATION! IMPACT!

With the addition of the new Z-550 and Z-1200 series, ESNA now has a specific nut design for all temperatures ranging from minus 65° F. to plus 1200° F. Self-locking, in both fully seated and positioned settings, these fasteners provide permanent protection against *vibration, impact* and *stress reversal.*

The two new nut designs represent the most efficient solution found by ESNA engineers after detailed research and production line studies of fastening problems encountered under elevated temperatures. Both fully meet ESNA standards for controlled quality and full interchangeability on class 3 bolts with minimum torque scatter. This controlled torque which is a feature of all ESNA nuts assures uniform bolt loading and permits more compact design, with resulting weight reduction. It also simplifies maintenance problems and speeds up field replacements.

Specifically, for applications between −65° F. and +250° F., the nut with the famous red fiber collar offers unequalled protection against vibration, thread corrosion and liquid seepage. The ZM and ZE nuts are designed for sustained temperatures up to 550° and the Z-1200 series has been engineered to withstand multiple cycles of exposure to extreme temperatures up to 1200° F. without seizure. Like all Elastic Stop Nuts, these fasteners are readily removed—do not damage threads or gall the finish—and they can be reused.

HERE'S A CHALLENGE: Send us complete details of your toughest bolted trouble spot. We'll supply test nuts—FREE, in experimental quantities. Or, if you want further information, write for literature. Elastic Stop Nut Corporation of America, Union, N. J. Representatives and Agents are located in many principal cities.

ESNA TRADE MARK

ELASTIC STOP NUTS

HIGH TENSILE

ANCHOR

WING

SPLINE

CLINCH

GANG CHANNEL

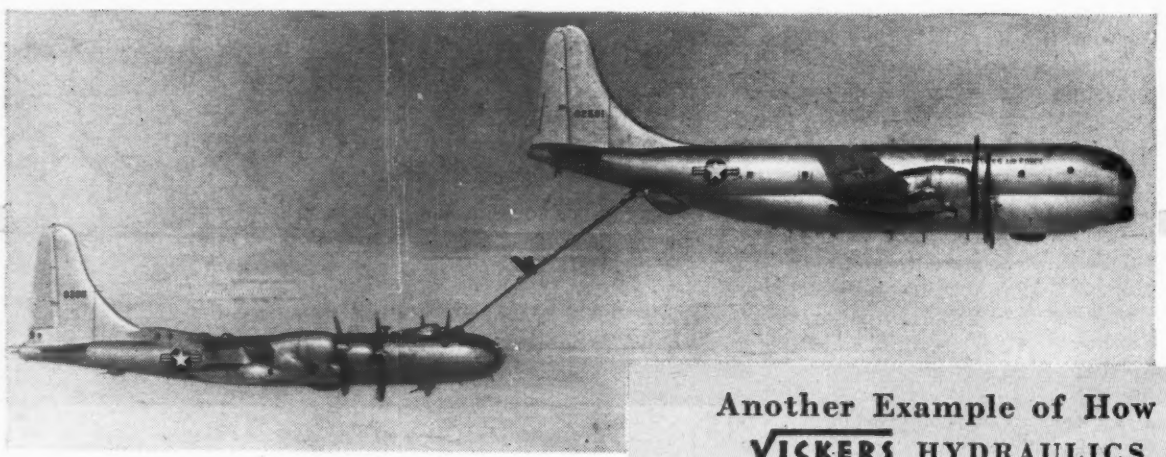
NYLOR CAP

OVER 450 TYPES AND SIZES IMMEDIATELY AVAILABLE FROM STOCK

Boeing Aerial Tanker delivers fuel twice as fast with weight saving of 550 lb.

•

Uses New Refueling Pump driven by VICKERS HYDRAULIC MOTOR



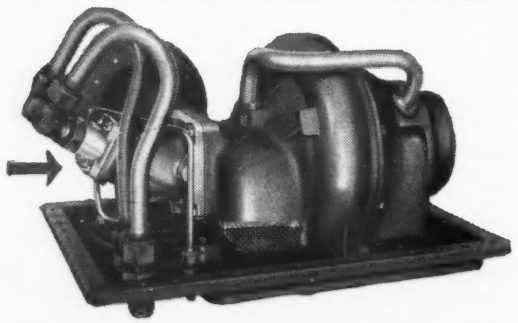
A significant advancement in in-flight refueling has been made possible by a new hydraulically driven fuel transfer pump (shown at the right). On the Boeing KC-97A Stratofreighter aerial tanker, two of these replaced 16 electrically driven pumps and deliver almost twice as much fuel per minute. The weight reduction was 550 lb. with an important saving in space. Totally submerged in the fuel tank, this new pump eliminates trouble from vapor lock . . . serious at high altitudes.

Vickers Hydraulic drives are also used for the accurate control required in guiding the fuel transfer boom. These hydraulic drives, powered from the engines, greatly reduce the tanker's electrical power requirements. Vickers builds the most complete line of hydraulic equipment for aircraft. Ask for new Bulletin A-5200.

Another Example of How VICKERS HYDRAULICS

1 IMPROVES PERFORMANCE

2 SAVES WEIGHT AND SPACE



New refueling pump, designed under supervision of US Air Forces, Air Materiel Command and built by Nash Engineering Co. Arrow points to Vickers Hydraulic Motor (Piston Type—Constant Displacement) directly coupled to pump drive-shaft. Entire unit is completely submerged in fuel tank.

4483

VICKERS Incorporated • 1526 OAKMAN BLVD., DETROIT 32, MICH.

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ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

MIG ALLEY CONTINUED

B-29s. The bullets saddle-stitched his fuselage, but he went into loops and rolls. He was badly crippled. Another burst got his engine and I saw him crash trying to leg it across the Yalu.

The numerical odds were against us on April 22, when our 12 Sabres were outnumbered three to one. With Capt. Norbert W. Chalwick flying protection for me, I took my time about getting behind a couple of MIGs and hit them both with short bursts. I had to pop my dive brakes to keep from running into one. I was still firing as he rolled on his back. I followed him down but I didn't realize how close to the ground I was until he crashed. I had a hell of a time pulling out of my dive. The cockpit dial showed nine G's before I blacked out. Fortunately my eyes focused in about three seconds and by instinct, I guess, I was headed upward.

That was my fourth kill. The first one was on April 3, when Becker was flying wingman. We were two against two. We saw the MIGs first at 7,000 feet and I used 1200 rounds, damaging the engine of one MIG that flamed out and crashed about ten miles from its home field. I damaged the other.

On April 10 we were MIG hunting again in the Alley. We let down from 36,000 feet through the undercast and broke out in the clear at 10,000. We saw six of them at 5,000 and bounced them from the seven o'clock position. Four of the MIGs broke up into the overcast and two broke down toward the ground. They just shouldn't have done it. I took after them. The leader scampered away, leaving his wingman wide open. After three Lufberrys (360 degree turns) I scored hits on the wingman. I used up my 1800 rounds of ammo but stayed with the MIG for about 30 seconds, meanwhile radioing my wingman, Lt. Otis Gordon, to start shooting.

This proved unnecessary, as the enemy pilot suddenly bailed out about 30 miles south of Sinuiju. I was flying almost at the speed of sound and couldn't see much, but he had a light blue parachute, black helmet, and light grey oxygen mask.

All of us would like to know who's actually flying the MIGs. It's good bull session material, especially after a mission. The consensus is that the enemy has two teams. The first team, a lot of people think, is made up of highly-trained Communists and ex-*Luftwaffe* pilots. The second stringers are Chinese and possibly North Koreans. To me they're all tough. The best ones are aggressive, they can maneuver the MIG, and they usually know what to do in case of trouble.

I learned some lessons early in the game in MIG Alley. I flew seven missions between December 23 and January 2 and didn't get a crack at the enemy until the fifth one. When I bagged a probable kill. I was flying Lt. Comdr. Paul E. Pugh's wing (he's a Navy pilot flying with us on the interservice exchange program, and has two victories over the MIGs). He took out after the leader of a flight of four. An enemy plane got on Pugh's tail and I radioed him to break as he was being attacked from six o'clock. I didn't know it until later, but his radio receiver wasn't working.

The fight had gone down from 35,000 to 1500 feet. There was nothing to do but try to get the MIG off Pugh's tail. I started shooting from 1500 and had plenty of strikes on the wings and tail section by the time we reached 800, with the enemy making no evasive maneuvers. Suddenly he did a split S. Two MIGs were after me from the stern position and I couldn't watch the crippled plane any longer. I almost laid myself wide open, and never made the same mistake again.

What does all this add up to? To me, we've come a long way and done a lot of good in the Korean air war since being alerted back at New Castle, Delaware, last November. We've done our bit to keep enemy air off the backs of our ground troops.

I'm glad to be in combat again. I like to fly jets at high speeds, although it takes something out of a guy—even at 27.

I don't get nervous anymore. I outgrew that in the last war. But the strain is greater now because of the high speeds, split-second timing and the fact that the Sabres and MIGs look alike. To me fighting for 30 minutes in the F-86 is equivalent to ten times that in an F-51.

We have good equipment, superior leadership and training, and I know our pilots are better than theirs, whomever they may be. As Colonel Meyer says, the nucleus of our wing is composed of the champions of the greatest air battles of history—between the US and Germans in World War II. There are at least 11 aces among us and our wing had the highest score in the last war, 1,016½ enemy planes destroyed.

Colonel Meyer says we're the champs of that war, and I guess that applies to this one, too. At least the score thus far would indicate as much.

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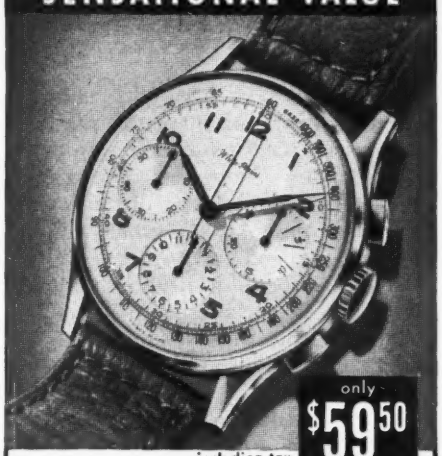

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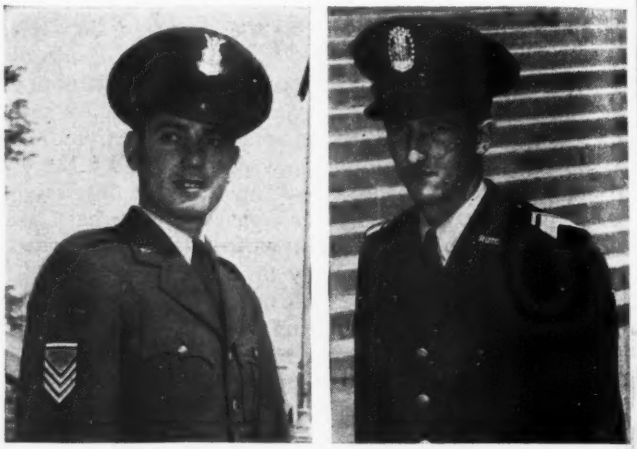
ROTC UNITS FOR 62 MORE SCHOOLS

More evidence of the increasing importance of the Air Reserve Officers Training program to the over-all mobilization picture was demonstrated through the announcement by Secretary of the Air Force Thomas K. Finletter that new AROTC units would be activated July 1 at 62 colleges and universities. The July additions will bring the total number of institutions with Air ROTC units to 187.

The selected schools were chosen from among more than 450 applicants in the continental United States and in Puerto Rico. Each applicant was considered by a special board appointed by Mr. Finletter to select the institutions best qualified to meet the specific requirements of the Air Force. Detailed instructions, prepared for the Secretary with professional educational assistance, were given the board to aid its deliberations. Selections were made on an impartial and objective basis.

In approving the board's selections, Mr. Finletter said, "The Air Force is pleased to locate Air Force ROTC units in the very excellent institutions which have been selected for this program. My only regret is that more of the fine institutions of learning which applied could not be chosen for participation."

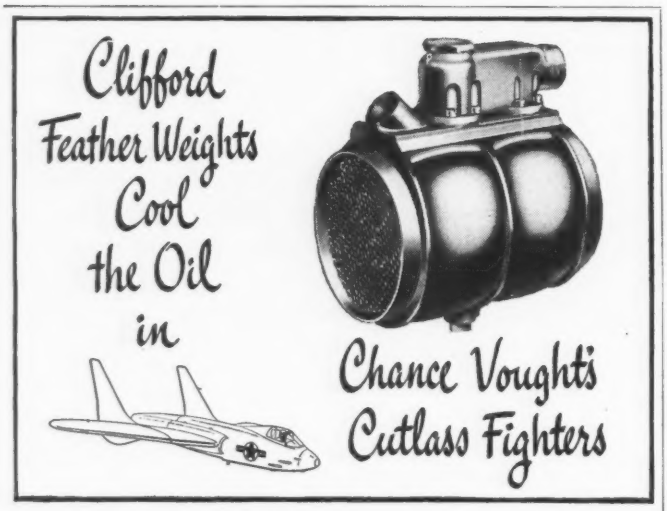
Members of the board were: Brigadier General R. L. Copsey, Deputy Special Assistant for Reserve Forces; Brigadier General G. P. Disosway, Director of Training, Deputy Chief of Staff, Personnel; Brigadier General A. L. Moore, Deputy Director of Manpower and Organization, Deputy Chief of Staff, Operations; and Dr. Edmund P. Learned, Professor at the Graduate School of Business Administration at Harvard University, who is serving as a special consultant to the Chief of Staff, USAF.



Here's a preview of the new Air ROTC insignia. The cadet on the left wears a first sergeant's chevrons, silver stripes on a dark blue background. His metal cap bears the crest shield and star design from the seal of the Department of the Air Force. Dark blue shoulder boards with silver stripes on the student at the right identify him as a cadet lieutenant colonel. Cap device bears oval of stars around the basic insignia.

This board operated with benefit of advice from a group of leading educators selected from a panel nominated by the American Council of Education. This group provided the Air Force with comparative evaluations of the academic standards of all the institutions considered in the selections. The educators consulted were selected because of their familiarity with educational institutions in all sections of the country.

Colleges and universities selected to receive new AROTC units are: California: California Tech, Occidental College, San Diego State, San Francisco State, University of California; Colorado: Colorado State, University of Colorado; D. C.: Catholic University, George Washington University; Georgia: Emory University; Illinois: Illinois Tech, Northwestern University, Southern Illinois University; Indiana: DePauw University, Evansville College; Iowa: Drake University, Grinnell College; Maine: Colby College; Massachusetts: Amherst College, Holy Cross, Lowell Textile Institute, Tufts College; Minnesota: St. Olaf College; Missouri: Washington University; Nebraska: Municipal University of Omaha; New Hampshire: Dartmouth College; New Jersey: Princeton University; New York: Brooklyn College, Columbia University, Manhattan College, Queens College, Hobart College, University of Buffalo, University of Rochester; North Carolina: Agricultural & Technical College of North Carolina; Ohio: Bowling Green State University, Case Tech, Kent State, Western Reserve University; Oregon: University of Portland, Willamette University; Pennsylvania: Allegheny College, Franklin & Marshall College, Grove City College, St. Joseph's College; Puerto Rico: University of Puerto Rico; Rhode Island: Brown University; Tennessee: Memphis State, Tennessee State University of the South; Texas: North Texas State, Southwest Texas State Teachers, Texas Christian University; Utah: Brigham Young University; Vermont: St. Michael's College, University of Vermont; Virginia: University of Richmond, University of Virginia; Washington: Central Washington College of Education, College of Puget Sound; West Virginia: Davis & Elkins College; Wisconsin: Lawrence College.



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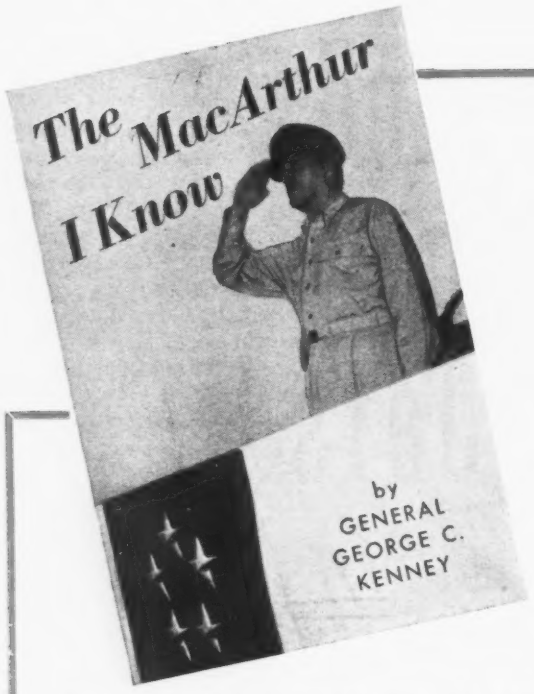

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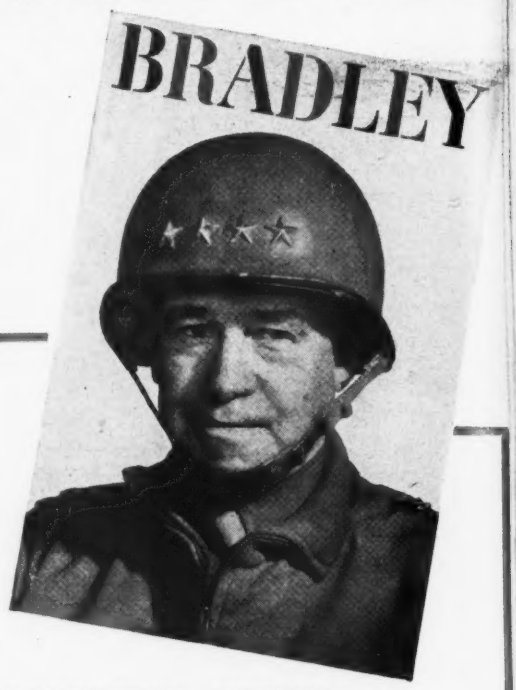

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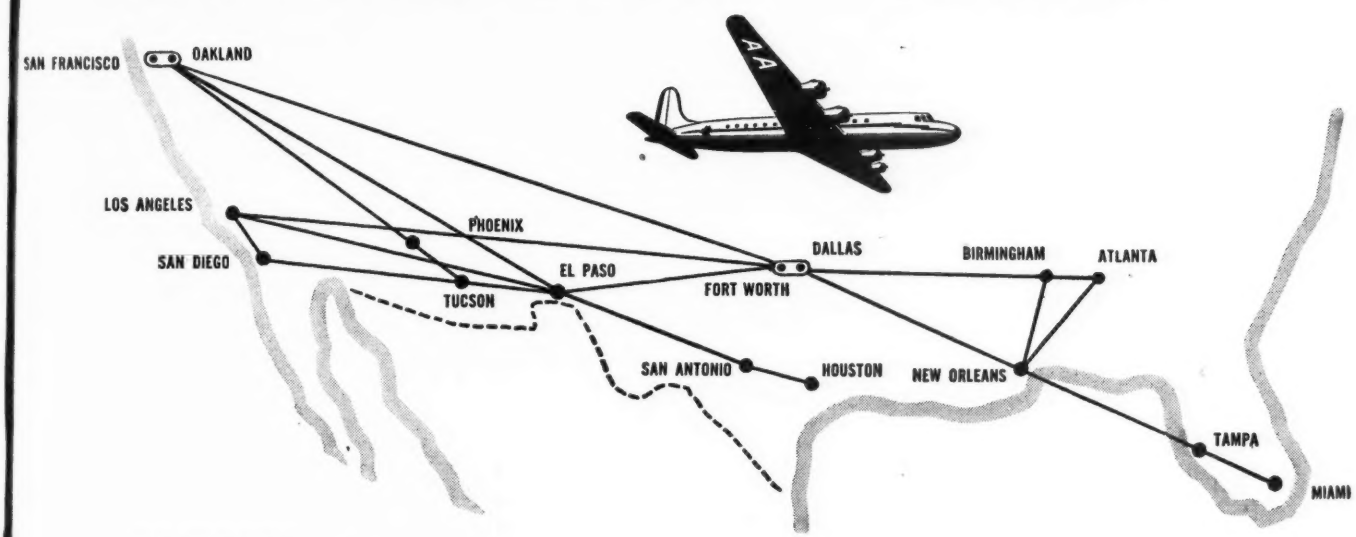

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NEW JERSEY: Paterson's Alexander Hamilton Hotel will be the scene of the 1951 New Jersey Wing convention on June 16. Write to Box 1831, Paterson 18, New Jersey, for details.

OKLAHOMA: Plans are now being made to hold a state meeting of AFA members in June. All members interested in such a meeting should contact the following without delay: John H. Crawford, 415 East 15th Street, Tulsa, Oklahoma.

PENNSYLVANIA: The 1951 State Wing Convention will be held on Sunday, June 3, in the Blair County Squadron Clubhouse, Frankstown Road, Altoona. Contact James Miller, 138 Broad Street, Hollidaysburg, Pa.

JOIN YOUR FRIENDS AT AFA MEETINGS

To all AFA Squadron Commanders: Two requests have been sent to AFA Squadrons since March 1 to obtain the names, addresses, and telephones of the new 1951-52 Squadron officers so that a consolidated roster can be printed in AIR FORCE Magazine. A number of Squadrons have not returned this information, vitally needed by AFA Headquarters to maintain the Squadrons on current mailing lists. Your cooperation is needed if your Squadron is to be listed in the roster. Send this information without delay to:

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